1927.

DEPARTMENT OF PUBLIC HEALTH, VICTORIA.

FIFTH REPORT

OF THE

COMMISSION OF PUBLIC HEALTH

TO THE

MINISTER OF PUBLIC HEALTH.

PRESENTED TO BOTH HOUSES OF PARLIAMENT PURSUANT TO SECTION 16 OF THE HEALTH ACT 1915.

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FIFTH REPORT OF THE COMMISSION OF PUBLIC HEALTH, 1926-27.

To the Honorable W. J. Beckett, Minister of Health.

SIR,

We have the honour to submit, in accordance with the provisions of section 16, *Health Act* 1919, our report for the year ended 30th June, 1927.

DISTRICT HEALTH AREAS.

A new health area in the State has been created by the division of the present central area into two districts. With the appointment of two new District Health Officers, Dr. R. E. Harris and Dr. H. W. Franklands, all seven health areas will now be under the supervision of resident District Health Officers.

LOCAL ADMINISTRATION.

MEDICAL OFFICERS OF HEALTH.

A new code of duties of Medical Officers of Health has been issued by the Commission, which imposes definite duties and responsibilities on that officer. The Commission again advises councils to have a written contract with their Medical Officer of Health, specifying the duties imposed under the Act, in addition to any duties required by the council, and also the remuneration and allowances.

HEALTH INSPECTORS.

The Health Act requires the appointment of qualified inspectors by councils, but allowed the retention of long-service inspectors and the exemption of municipalities, where, in the opinion of the Commission, the special circumstances justified such a course.

At present 81 councils employ inspectors qualified by examination, 82 employ inspectors qualified by five years' service before the passing of the Act, and 31 were granted exemption from employing qualified inspectors.

The Commission realizing that many of the shires are unable to pay the salary of a qualified inspector for health inspections alone, have encouraged the combination of neighbouring municipalities in making conjoint appointments of Health Inspectors, believing that the part-time service of a qualified inspector is of more service to a council than the whole-time service of an unqualified inspector, who may be devoid of both knowledge and experience. The policy of conjoint appointments has been freely adopted by councils, and seventeen conjoint appointments have been approved by the Commission. Five of these appointments have been made by a union of two councils, three by three councils, two by four councils, four by five councils, two by six councils, and one by a group of seven councils.

OFFICE ACCOMMODATION.

The Commission once again desires to draw attention to the present inadequate office accommodation of the Health Department. The appointment of officers in charge of tuberculosis and infant welfare work, has added to the already existing difficulties in providing suitable accommodation for the staff. The Commission again recommends that a bacteriological laboratory be established in connexion with the Department. At present the University Bacteriological Laboratory is subsidized to the extent of £2,500 a year for bacteriological work which could be done at a departmental laboratory, if such existed.

TUBERCULOSIS.

The death rates from pulmonary tuberculosis and other forms of tubercular diseases were for the year 1926, the lowest ever recorded in the State. While a steadily declining death rate may be regarded as encouraging, no slackening in the war against this disease is warranted while tubercular diseases remain as one of the chief causes of death in this State.

The appointment of a State Director of Tuberculosis will enable a co-ordinated campaign against tuberculosis to be vigorously carried out throughout Victoria.

The Commission welcomes the introduction of a Milk Bill, which, among other good results, will put an end to the sale of milk infected with tubercle bacilli. A marked reduction in the number of cases of surgical tuberculosis in children will undoubtedly result if a supply of tubercle-free milk can be assured.

The Commission is still of opinion that the following should be undertaken in the near future :—

(1) That a new wing capable of accommodating 40 patients be erected at the Heatherton Sanatorium. (The estimated cost is about £3,500.)

It is suggested that the advanced cases now at Janefield be transferred to Heatherton. This will free Janefield for the reception of early female cases.

The Commission is of the opinion that the Greenvale site is very suitable, but should be remodelled and provided with water, sewerage, and electric light if it is to be permanently retained.

(2) That Janefield be extended so as to accommodate 100 early female cases. When the new ward now in course of erection is completed there will be accommodation for over 50 cases. Two new wards will be necessary to accommodate a total of 100 patients, and the estimated cost is about £4,000.

(3) That the proposed Mont Park Sanatorium be proceeded with without delay.

It is suggested that provision be made for 100 male cases, and that the design be such that the accommodation can be extended to provide for 200 cases. It is also suggested that provision be made for the carrying on of productive industries.

(4) That a Sanatorium for 50 males be provided at the King Edward Memorial Sanatorium site at Bendigo as an adjunct to Mont Park.

The present bed accommodation at sanatoria is based on an average stay of three months. Extension of this period is necessary to secure good results. Extension of period means increase of beds. Change of environment is an important factor in the treatment of patients ; hence the recommendation re the establishment of a sanatorium on the Bendigo site. Bendigo has certain advantages, including—

(*a*) The site (about 90 acres) is already available.
(*b*) The climate has been proved suitable for the treatment of consumptives.
(*c*) Bendigo is on a main line with a good train service.
(*d*) The Commonwealth Laboratory is available for X-ray and bacteriological work.
(*e*) Clinical consultation is available.
(*f*) Domestic staff will be more readily obtainable.
(*g*) Water is available close to proposed site.
(*h*) Electric lighting can be extended to the site at a relatively small cost.
(*i*) £3,000 is available from the King Edward Memorial Trust.

(5) That Amherst be retained only until Mont Park and the Bendigo sanatoria are equipped.

Maryborough Water Trust has definitely stated that it cannot extend its mains to Amherst. Without permanent and sufficient water no site is suitable.

(6) That a new hospital-sanatorium be provided in lieu of the consumptive wards at the Austin Hospital.

Provision will need to be made for 150 beds, but the design should be such as to admit of extension to 200 beds.

Note.—When this is provided it may be found to be desirable to restrict Heatherton to one sex and the new institution to the other sex. This is a matter for consideration in the future.

The proposed new hospital-sanatorium should be situated near Melbourne so as to permit of the patients' relatives visiting them.

(7) That a ward be provided at a metropolitan general hospital or hospitals for the purposes of observation, diagnosis, and special treatment.

(8) That the management of the sanatoria be in the hands of a representative committee under the general control of the Commission.

(9) That a suitably qualified medical officer be appointed to each sanatorium under the direction of the Director.

(10) That all expenditure in relation to tuberculosis should be regarded as of national concern and defrayed from the Consolidated Revenue, and that as continuity of control is essential for success, the tuberculosis estimates should be framed by the Commission and not made dependent on political exigencies.

In making this suggestion, the Commission desires to point out that this method of control has worked satisfactorily in respect of Heatherton and the Fairfield Infectious Diseases Hospital, where conditions are somewhat analogous.

(11) That in all sanatoria provision should be made for productive employment suited to the clinical condition, temperament, and industrial capacity of the patients, and under close medical surveillance. Experience has shown that industrial employment is an essential factor in the successful treatment of patients.

The industries carried on at the Cambridgeshire Tuberculosis Colony (Papworth Hall) include—

(*a*) Carpentry and joinery ;
(*b*) Poultry farming ;
(*c*) Pig rearing ;
(*d*) Signwriting, window tickets, &c. ;
(*e*) Portmanteau and attaché-case making ;
(*f*) Horticulture, including vegetables ;
(*g*) Printing ;
(*h*) Cabinetmaking ;
(*i*) Upholstery ;
(*j*) Bootmaking and repairing ;
(*k*) Tailoring ;
(*l*) Hand-made jewellery ;
(*m*) Leather fancy goods.

Other forms of industry suitable for patients include certain kinds of metal working, knitting, white work, toymaking, wicker and basket work, watch repairing, bookbinding, tinsmithing, wood carving, shirtmaking, embroidery, lacemaking, artificial silk and silk weaving, artificial flower making, picture frame making, umbrella assembling, and fancy wire frames.

(12) That patients be equitably paid for all work done in relation to productive industries, and that where the Commission considers necessary the dependants of breadwinners should be given an allowance for maintenance while such breadwinners are in the sanatorium.

The Commission is of opinion that payment for productive or useful work is essential to secure the co-operation of the patient, and that without such co-operation success in treatment is not practicable.

(13) That each institution should be provided with adequate facilities for suitable recreation.

(14) That all buildings should be constructed in a permanent and substantial manner.

The Commission considers that it will be found to be true economy to erect substantial buildings as they will have a much longer life and will cost much less in maintenance.

The Commission also desires to draw attention to the good results obtained in the treatment of non-pulmonary tuberculosis by sunlight (heliotherapy), and especially to the work of Rollier at Leysin, Switzerland.

The following table shows the results of treatment by Dr. Rollier of 1,129 persons suffering from non-pulmonary tuberculosis :

Total	Healed.	Improved.	Stationary.	Died.
1,129	945	112	41	31

These results are such as to justify the establishment of a heliotherapy institution in this State.

In dealing with non-pulmonary tuberculosis it must be borne in mind that prevention is infinitely preferable to cure, and as this type of tuberculosis is in the main caused by tubercle infected milk it is essential that the tubercular cow should be eliminated from the herd by means

of the tuberculin test. The Medical Research Council's Special Report No. 94 indicates that the intradermal tuberculin test has many advantages over the subcutaneous test. No temperature observations are required; the cow need not be kept at rest before and during the conduct of the test, and the ordinary farm routine is not interfered with. It is trusted that this test will be very extensively used.

RURAL SANITATION.

The District Health Officers have all reported that a considerable improvement has occurred in their respective districts in rural sanitation generally. The standard of cleanliness in slaughter-yards, butchers' premises, bakehouses, and all premises connected with the sale and preparation of food has been definitely raised. Much attention has been given to the protection of food from flies, and at the Annual Conference of District Health Officers, the general opinion was expressed that many country towns have dealt with the fly nuisance more effectively than some of the metropolitan municipalities.

RIVER POLLUTION.

Unfortunately the major problem of the prevention of pollution of water supplies, to which reference has been frequently made in our previous reports, has not yet been adequately dealt with. Many country towns derive their water supply from rivers, without any provision being made for the purification of the crude river water, which has been polluted with the drainage of townships situated higher up the stream. With the steady increase of population in towns situated on rivers, and with the lessened flow in many rivers due to the increased use of water for irrigation purposes, the risk of serious pollution of rivers is becoming greater year by year. The risk of epidemics of diseases such as dysentery and typhoid due to water-borne infection is now serious: the pollution of rivers could be considerably lessened by preliminary treatment of town drainage and trade wastes before discharging into the rivers.

Those towns deriving their domestic water supply from rivers subject to pollution should be required to install some system of purification. Chlorination appears to be the form of treatment which other countries are generally adopting as being efficient and comparatively inexpensive.

The Commission has been so impressed with the gravity of this question of river pollution that they visited Sale and Maffra to inquire into the complaint of the municipal council of Sale, that their water supply, which is derived from the Thomson River, was becoming unfit for human consumption owing to its pollution by the drainage of factories at Maffra, which enters the Macallister River, a tributary of the Thomson River. Several reports had been made concerning this matter by officers of the Health Department, and, after personal investigation, the Commission was of the opinion that the complaints were justified, and informed the Minister of Health accordingly, and recommended that certain methods for dealing with factory effluents which had been submitted for their approval be proceeded with without delay.

The cause and remedy are under the control of the Department of Agriculture, and not, therefore, subject to regulations of the Public Health Department.

NIGHT-SOIL DISPOSAL.

Satisfactory night-soil disposal is one of the most difficult problems of rural sanitation.

The Commission is gratified that many country towns are now making inquiries as to the practicability of installing schemes for water carriage sewage systems. The installation of septic tanks in country hotels and in country homes is steadily increasing, while septic tanks may generally be regarded as being a great advance on the older and more primitive methods of night-soil disposal, certain precautions are necessary to ensure their safe and efficient working. It is essential that sufficient land must be available to deal with the effluent. The installation of septic tanks in country hotels, from which the effluent is run directly from the tank into street channels, without any preliminary land treatment, is potentially more dangerous than a properly constructed closet, with a well conducted double pan service. Septic tank effluents which are clear and odorless are not necessarily free from disease-producing organisms.

Septic tanks, to be satisfactory, must be properly designed and constructed, and be of sufficient capacity to deal with the maximum "load" they may be required to deal with. It is impossible to provide a standard plan, which will be suitable for all conditions, and each case must be considered in relation to local conditions.

Since the making of this Report, a Conference between the Commission and the Melbourne and Metropolitan Board of Works has been held, and the Commission has approved of the introduction of septic tanks and chemical closets as suggested by that Board, and that their use should be encouraged, wherever practicable their control to be under the said Board.

PAN CLOSETS.

The reports received from District Health Officers show that regrettably slow progress is being made in improving the standard and maintenance of pan closets in rural districts. Not only private dwellings, but schools, public halls, and churches seem in many cases to be provided with earth closets, which have serious sanitary defects. This applies not only to old structures, but in many cases, to those which have been recently built. The essential requirement of pan closets is that flies should be prevented from obtaining access to the pan contents. A great reduction in those diseases in which infection is spread by alvine discharges, and in which the fly is so commonly the vector of disease, can confidently be predicted if local health authorities maintain a constant and strict supervision over the construction and maintenance of sanitary conveniences.

To assist municipal councils in this duty, it is proposed to publish a description of a model closet, with full plans and specifications, in a future issue of the *Health Bulletin*.

Greater activity should be observed by metropolitan councils in the supervision of closets in unsewered areas in their districts, and in the carrying out of regulations for suppression or mitigation of the fly nuisance. Many also are failing to enforce the General Sanitary Regulations with regard to temporary sanitary conveniences in use where new buildings are being constructed.

DIPHTHERIA.

The prevalence of diphtheria throughout the State during the last sixteen years has been the unsatisfactory feature of the statistics of infectious diseases. The year 1926 shows some improvement, however, and the number of cases reported, 2,471, is the lowest recorded since 1910. The mortality rate per 100 cases reported, 2·8, is the lowest recorded, with the exception of the years 1922 and 1923, with rates of 2·6 and 2·7 respectively; while a mortality rate of 2·8 per cent. of cases may be regarded as a low figure, when compared with a rate of 6·98 per cent. in the London Metropolitan Area, for the period 1918–24. Further progress is quite possible, if parents would realize the necessity of obtaining medical advice immediately on the appearance of throat symptoms in their children. The earlier administration of anti-toxin would save numerous lives. The report of the Medical Superintendent of the Infectious Diseases Hospital, Fairfield, shows that the mortality per cent. of patients admitted to that institution was 0·7 for those ill one day, rising to 3·1 for those four days ill prior to admission. No anti-toxin had been given previously.

The study of the statistics relating to diphtheria in this State for the last 30 years shows that any advance in dealing with this disease has been solely confined to improvement in treatment. For the period of 1895–99, 13·9 of the cases who contracted diphtheria died, while in 1926, only 2·8 of diphtheria cases were fatal. But when the question of the incidence of the disease is investigated, it is found that the incidence rate of the disease has not only not shown any decrease, but shows an actual increase, the figures being, in 1895–99, 134 cases reported per 100,000 of population, while in 1926, the corresponding number was 145.

It is, therefore, clear that the usual methods of administrative control of infectious diseases, including compulsory notification and isolation of patients, have failed to limit the spread of diphtheria. The same problem has arisen in other countries, and it has generally been realized that success can only be reached by the employment of new methods. The suggestion that some method might be devised of conferring immunity from this disease by some method comparable to vaccination against small-pox, led to extensive experimentation, which finally succeeded in producing the method now known as toxin-antitoxin immunization. While working on the problem, the interesting fact was discovered that certain individuals had a natural immunity from diphtheria, and a test—called the Schick test—is now available by means of which it is possible to separate the immunes from the susceptibles. The Schick test, and toxin-antitoxin immunization of susceptibles, has for many years been extensively used in the United States of America. On account of the large number of children who have been immunized, and the lengthier period of time which can be studied, the most valuable evidence of the efficacy of immunization comes from the United States of America.

The most complete trial of immunization methods was carried out in the city of Auburn (population 37,000), in the State of New York. The death rate from diphtheria in this city was, 48·3 per 100,000 in 1920, and nearly as high in 1921. In 1922, 58 per cent. of school children giving positive Schick reactions were immunized; in 1923 the percentage of children immunized was increased to 73, and in 1924, immunization of 85 per cent. of the school population and a considerable number of children under school age was secured. Since that time, for a period of two years and two months, there has not been a single death from diphtheria in the city of Auburn.

While no campaigns comparable in range with that of Auburn have been undertaken in England or Victoria, certain valuable trials of this method have been conducted in both countries. The 1925 report of the Chief Medical Officer of Health, England, contains a survey of the work of this nature, supervised by the Ministry of Health. Four thousand five hundred and twenty-eight children in fourteen different schools or institutions had been Schick tested, and most of the susceptibles immunized. Only two mild cases had since occurred in children treated, and six in children who were supposed to be Schick negative and not immunized. Among those who had not been tested, or if found positive and not been treated, 70 cases had occurred. The Chief Health Officer also drew attention to the fact that many infectious diseases hospitals were still not immunizing nurses who were in attendance on diphtheria cases, and pointed out that it was estimated that the total cost to the hospital of every nurse who took diphtheria was £28 10s., while the cost of immunizing a nurse was 2s. 9½d. This criticism is certainly applicable to this State, as in one country hospital alone six cases of diphtheria in nurses have been reported in the first six months of 1927.

In this State, the largest Schicking campaign undertaken was in Bendigo in 1923 and 1924. In 1923, approximately 28 per cent. of the 5,761 children attending the schools were tested. In 1924, further work was undertaken which, when completed, resulted in 40 per cent. of the school children being tested and immunized. Among the children who had completed the course of three immunizing doses, only three cases of diphtheria were reported in 1924. Two of these cases contracted diphtheria within a month of the last injection, and so had not developed full immunity, which is not established until at least two months after the final dose. In the third case, a well marked pseudo-reaction probably masked the positive reaction, and led to an incorrect reading. Unfortunately, as to 1925 and 1926, no information is available as to whether the cases of diphtheria reported from Bendigo have been Schicked and immunized or not. The encouraging results of the work done at Bendigo are seen in the table given below, which compares the incidence of diphtheria in Bendigo with other areas of the State, and which shows that during 1926 Bendigo had a lower rate of incidence than in any other area of the State, with the exception of Ballarat, a striking contrast to its record for the previous sixteen years.

An account of the excellent results obtained in the municipalities of Moorabbin and Frankston and Hastings in lessening the incidence of diphtheria is given in the annual report of the District Health Officer for the central area.

In this State satisfactory evidence as to the efficacy of immunization can only be obtained when full particulars of the previous history as regards Schicking and immunization are obtained in all cases of diphtheria. Medical officers of health in municipalities where immunization campaigns have been carried out would perform a very useful public service if they would obtain and record these particulars over a series of years.

The Schick test and active immunization has hitherto been practically limited to children attending schools. Extension of the work to the group of children of 2–5 years of age—the pre-school population, among whom there is a high rate of diphtheria incidence—has not been practicable. It is, therefore, irrational to expect that present methods will completely eradicate diphtheria in a community, but results already obtained in this State show that the number of cases, each a source of further infections, can be diminished.

Continuous effort is also necessary if permanent results are to be achieved—and each year the group of young children commencing school attendance should receive attention.

The Commission re-affirms its previously expressed opinion that the use of toxin-antitoxin immunization is the best available means of lowering the incidence of diphtheria in this State. As a matter of practice, it is best to immunize all the children, as there is less trouble than a "Shick" testing of all, and immunizing only those that are susceptible to diphtheria.

MILDURA DIPHTHERIA CAMPAIGN.

A campaign of swabbing, Schicking, and immunization was carried out in Mildura town and shire by the local health authorities, assisted by the District Health Officer, Dr. Telford, in June, 1926.

The number of children attending school in the district was 2,689, and consent was given by the parents of 1,549, or 57 per cent. of the scholars, to the performance of the Schick test. Of these children, 554 or 35 per cent., gave positive reactions, and 462 of these completed the course of three immunizing injections. Twenty-six children were immunized without previous Schick test. In addition, 22 children of pre-school age, and eighteen adults were immunized. Of the children attending school in the Mildura district, 55 per cent. at the completion of the campaign were, therefore, naturally immune or had been immunized by the administration of three injections of toxin-antitoxin mixture. If the percentage of children naturally immune,

among those who refused the Schick test, can be assumed to be the same as those who were tested, the percentage of Mildura school children who are immune to diphtheria would be now 80 per cent.

All the school children refusing the Schick test were swabbed, and 88 of these, or 9·5 per cent., were found to be carriers.

The diphtheria rate in the Mildura district had been considerably above the average rate for the State for many years prior to 1926.

In 1925, 122 cases of diphtheria were reported from the town and shire for the first six months of the year, in 1926 the corresponding number was 26, and in 1927 only 17 cases of diphtheria were reported up to 30th June, and of the cases reported only six were of school age.

As the incidence of diphtheria in Victoria was 30 per cent. higher for the first six months of 1927 than for the corresponding period of 1926, the reduction in the number of diphtheria cases in Mildura this year must be regarded as being mainly due to the preventive work done in 1926.

DIPHTHERIA CAMPAIGN.

The Commission has co-operated with the following municipal councils in carrying out diphtheria prevention campaigns:—

Broadford.
Carrum.
Ballan.
Hawthorn.
Berwick.
Oakleigh.
Romsey.
Kowree.
Northcote.
Ferntree Gully.
Bacchus Marsh.
Frankston and Hastings.
Lillydale.
Kerang.
Mordialloc.
Moorabbin.
Towong.

INFECTIOUS DISEASE HOSPITALS.

The accepted standard laid down for accommodation in infectious diseases hospitals is one bed per 1,000 of population. Although this provision may not meet all demands for beds when the incidence rate for several infectious diseases is high during the same year, the scale of one bed per 1,000 of population is recognized as being a reasonable provision for the isolation and treatment of infectious diseases.

The population of Greater Melbourne is now 1,000,000, and this population occupies a very much larger area than is usual in cities containing a similar number of inhabitants. Greater Melbourne has only one hospital, where infectious diseases cases are treated—the Queen's Memorial Infectious Diseases Hospital, at Fairfield, containing 563 beds, which might, in an emergency, make provision for 600 cases. This gives a rate of ·6 beds per 1,000 of population. To attain the standard requirement of one bed per 1,000 of population, 400 more beds would be required. Moreover, Fairfield Hospital receives many patients from country districts far beyond the boundaries of Greater Melbourne. The provision of one infectious diseases hospital only for a city of the size and population of Melbourne is remarkable, when compared with the provision made in cities of comparable populations in Great Britain.

Liverpool, with a population of 843,000 (1925), and an area of 33 square miles, has four infectious diseases hospitals, containing 865 beds, giving a rate of a little over one bed per 1,000 of population.

Glasgow, with a population of 1,097,841 (1925), has five infectious diseases hospitals, containing 1,386 beds, giving a rate of 1·3 beds per 1,000 of population.

It must also be noted that Fairfield Hospital does not receive patients suffering from such diseases as small-pox and plague.

This Commission has repeatedly drawn attention to the fact that no accommodation is at present available in the city of Melbourne for cases of small-pox and plague. That a city containing 1,000,000 inhabitants, situated on the seaboard, should not have a single hospital bed available, for suspected or actual cases of small-pox, is a situation probably without parallel in the world, and one fraught with such peril to the community that this Commission once more urges the municipal councils to make immediate hospital provision for such cases.

Arguments have been advanced that, as small-pox can only be introduced from abroad, the Commonwealth Quarantine Service should be able to prevent the entrance of this disease into Victoria. This contention has so often been publicly refuted by competent medical authorities that there should be no longer any excuse for its again being advanced by any responsible citizen of this State.

The impossibility of always being successful in excluding small-pox from Australia by quarantine examinations would be easily understood by the public if it realized that many foreign countries in which small-pox is endemic are within less than twelve days' sailing distance from Australia. The incubation period of small-pox is generally twelve days, and a person may land in an Australian port, incubating the disease, without showing any signs of the disease, and thus medical examination at the port of entry would fail to prevent the admission of such a person into the State. A passenger incubating the disease may have travelled far inland before the disease develops. If he has been vaccinated in infancy and, therefore, retains a considerable amount of immunity, the disease may be so mild as to escape recognition by an examining physician, or may even be so trivial in nature that no medical advice may be sought. Such a case can, however, spread infection and give rise to an epidemic of virulent small-pox. During the last few years, many ships have arrived in Australia with small-pox cases on board, which have escaped recognition by the medical officer of the ship, and have been subsequently correctly diagnosed by the medical officers of the Quarantine Service. As infantile vaccination has practically been abandoned in this State, a population susceptible to small-pox is now growing up, and as it is impossible to guarantee that small-pox can be excluded by any method of medical examination at port of entry, however efficient it may be it would appear that cases of small-pox must some day inevitably occur in this State, and the problem of finding accommodation for them will have to be met. At present, the only method available would appear to be the quarantining of the house and its inmates, an expensive and inefficient means of securing isolation of the patients and contacts.

The present accommodation for infectious diseases in the metropolis would be quite insufficient to cope with any emergency such as an epidemic of influenza comparable in numbers to that of 1919. While the experience learned in that year would result in much more being done in the way of organizing a home nursing service, the demand for hospital beds would be undoubtedly greater than the present supply, and while the present shortage of medical beds in general hospitals exists, relief cannot be expected from these institutions. Emergency hospitals are necessarily expensive to equip and maintain, and the most efficient method of dealing with emergency epidemics, both from the medical and economic point of view, is to have permanent institutions which are capable of considerable expansion in times of stress.

The erection and maintenance of infectious diseases hospitals in large cities, when undertaken jointly by several large metropolitan councils, imposes a much lighter financial burden on the individual ratepayer than the similar provision in country areas, where it is impracticable, owing to the large area of country municipalities, to erect an infectious ward at any hospital which will serve the needs of more than a limited number of adjoining municipalities.

The Commission fully recognizes that in many country municipalities the expense involved in making provision for infectious cases is one very difficult to meet, and has always encouraged any schemes for the combination of councils to erect group hospitals of as cheap construction as is consistent with efficiency, thus helping to lessen the financial burden on individual councils. The statutory obligation for the provision of infectious diseases hospitals by municipalities undoubtedly presses more severely on the rural than on the urban ratepayer. Existing legislation, which provides that the Government shall share equally with municipalities the cost of erection and maintenance of infectious diseases hospitals, is one which in our opinion is just and equitable.

INDUSTRIAL HYGIENE.

Owing to the rapid growth of secondary industries in Victoria, an ever-increasing proportion of the adult population is becoming engaged in factory work. There is no doubt that a close relationship exists between industrial conditions and health, and every industrialized country has found it necessary to introduce legislation for the purpose of safeguarding the health of the factory worker.

The prevention of industrial accidents and occupational diseases is now regarded as one of the most important subjects in the field of preventive medicine ; and industrial medicine and surgery are now recognized branches of medical science, bringing the practice of medicine into intimate contact with industry. It is no longer considered sufficient to treat cases of illness and accident in factories, without conducting a prompt investigation into their causation, with the result that in many cases satisfactory methods of prevention have been discovered and adopted.

The bringing into operation of the Workmen's Compensation Act has enabled accurate estimates to be made of the nature and extent of industrial accidents and disease. The grave economic loss which industry is now bearing from these causes has been clearly revealed, and the prevention of industrial accidents and diseases, and the maintenance of a high standard of health among workers, are now regarded as being necessary to the efficient conduct of industries.

In 1923, the Dangerous Trades (occupational illnesses) Regulations were brought into operation in this State, under which it is compulsory for medical practitioners in attendance on cases of certain specified industrial diseases to forthwith notify them to the Chief Health Officer. These regulations have been found useful in practice, as it has enabled an immediate investigation to be made into the conditions of work in the factory concerned, which, in many cases, has enabled the Inspector to suggest and to secure the adoption of appropriate preventive measures.

In one industry, namely, the manufacture of electrical storage batteries, the workers in factories were found to be exposed to grave risks of contracting lead-poisoning. As the existing regulations governing this industry were found inadequate to enforce the necessary reforms, on the advice of the Commission new regulations were enacted, which have enabled administrative authorities to secure the adoption of safe methods of working in the dangerous processes of this industry.

J. W. CURNOW,
WALTER SUMMONS,
W. S. NEWTON,
B. A. SMITH,
JOHN HANCOCK,
FRANK STAPLEY,
} Members of the Commission.

T. DIMELOW, Secretary.

Public Health Department,
Offices of the Commission,
Melbourne, 27th September, 1927.

DIVISION 1.—INFECTIOUS DISEASES.

(*a*) Annual Mortality in Victoria.

Diphtheria.

The table following shows the number of reported cases and registered deaths and also the percentage of case mortality for the last ten years.

Year.	Cases.	Deaths.	Mortality per cent.
1917	4,092	154	3·76
1918	6,568	211	3·21
1919	4,007	211	5·26
1920	6,458	276	4·27
1921	9,458	275	2·90
1922	5,323	138	2·6
1923	3,467	94	2·7
1924	3,987	114	2·9
1925	2,631	71	2·7
1926	2,471	70	2·8

The number of cases of Diphtheria reported in 1926 is the lowest since the year 1910, and the case mortality of 2·8 per cent. compares very favorably with the records of other countries.

The continued prevalence of Diphtheria is, however, unsatisfactory, in that the incidence rate for 1926, namely, 145 per 100,000 of population, is higher than the average rate for the period 1900–1909, namely, 126.

The accompanying graph, showing the incidence rates and Death rates for the period 1900–1926, demonstrates that the lowering of the death rate from Diphtheria in the State is due to improvement in treatment and not to prevention.

Diphtheria Victoria 1900-1926

600

500

400

300

200

100

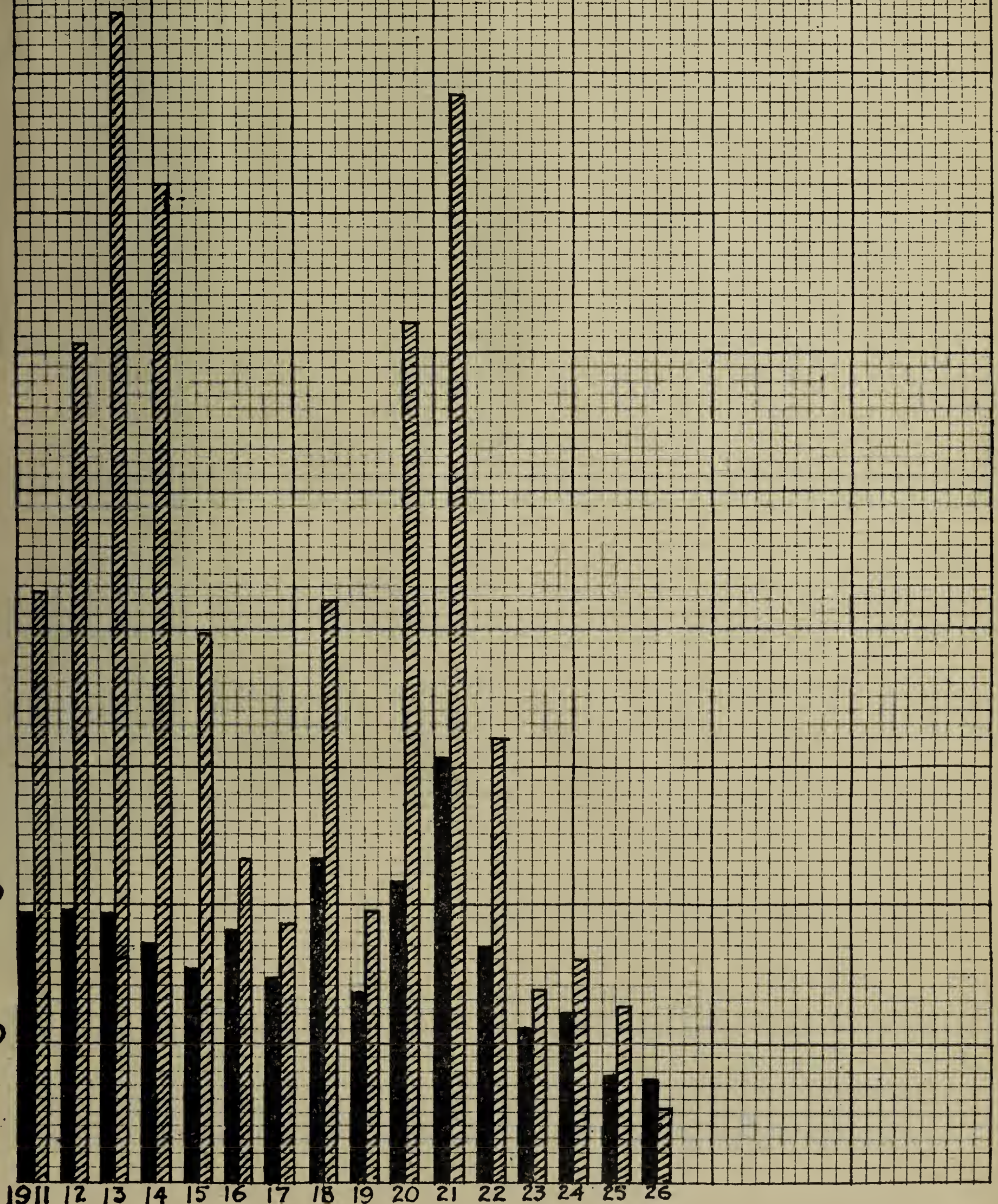
——— Death Rate per Million

- - - - - Incidence Rate per 100,000

1900 1905 1910 1915 1920 1925

Diphtheria Cases per 10,000 1911-1926

Stoke = Black
Bendigo = Hatched



The graph comparing the incidence rates of Diphtheria in the City of Bendigo, and in the State as a whole, shows the success achieved by the use of preventive methods. In 1922, a swabbing campaign was conducted in Bendigo, and in 1923 and 1924, Schicking and immunizing campaigns were carried out. The result has been that in 1926, the incidence rate of Diphtheria in Bendigo, was considerably below that of the State, whereas in former years the Bendigo rate had been considerably higher than the State average.

Typhoid Fever.

The table below shows reported cases, registered deaths, and case mortality for the past five years in Victoria.

Year.	Cases.	Deaths.	Mortality per cent.
1922	301	31	10·3
1923	468	55	11·7
1924	304	33	10·9
1925	181	19	10·5
1926	286	29	10·1

Scarlet Fever.

The table below shows reported cases, registered deaths and the case mortality for the past five years.

Year.	Cases.	Deaths.	Mortality per cent.
1922	1,972	13	0·66
1923	1,730	18	1·04
1924	2,356	22	0·93
1925	1,345	16	0·19
1926	1,151	15	1·30

Tuberculosis.

The table below shows the actual number of deaths and the death rate per million in the State of Victoria for the periods mentioned.

Tuberculosis — All Forms.

Year.	Total Deaths.	Death Rate per Million.
1922	1,076	685
1923	1,195	743
1924	1,169	712
1925	1,099	658
1926	1,067	629

The total deaths and the death rate per million for the year 1926 are the lowest ever recorded in the State.

(*b*) Small-pox and Vaccination.

No case of small-pox has occurred in this State since the year 1921.

The number of Infantile Vaccinations performed in this State is steadily decreasing. During the year 1926 1,318 infants were vaccinated, giving a percentage rate of vaccinations per births of 3·7.

The Commission has recommended that the laws relating to vaccination be repealed, as considerable expense is still incurred by the State in carrying out an Act which has been rendered ineffective by the introduction of the Conscience Clause.

(*c*) Rat Destruction.

The following statement shows the number of rats trapped on the Melbourne Wharfs for the past five years :—

Year.	Rattus.	Decumanus.	Total.
1922	739	376	1,115
1923	417	402	819
1924	498	639	1,137
1925	663	918	1,581
1926	556	734	1,290

Systematic poisoning of rats is carried out by the permanent staff of rat-catchers at the wharfs. No accurate estimate can be made of the number of rats killed by the laying of poison baits.

DIVISION 2.—INFANTILE AND MATERNAL MORTALITY.

INFANTILE MORTALITY.

The Infantile Mortality Rate (deaths under one year per 100 births) in Victoria for the periods mentioned are given below :—

1880–84	12·00	deaths per 100 births
1890–94	11·47	,,
1900–04	9·82	,,
1910–14	7·38	,,
1920–24	6·53	,,
1925	5·70	,,
1926	5·56	,,

MATERNAL MORTALITY.

In 1926, 194 mothers died from the diseases and accidents of childbirth. Of these, 64 died from puerperal diseases.

The following table shows the deaths of mothers to every 1,000 children born alive, for the periods mentioned. The Maternal Mortality Rate for 1926 shows a considerable increase over that reported for many years past.

Period.	Puerperal Sepsis.	All other Causes.	Total Deaths from Childbirth.	Period.	Puerperal Sepsis.	All other Causes.	Total Deaths from Childbirth.
1871–1880 ..	1·71	4·72	6·43	1924	1·55	3·32	4·87
1881–1890 ..	2·04	3·87	5·91	1925	1·09	3·25	4·34
1891–1900 ..	2·02	3·58	5·60	1926	1·81	3·67	5·48
1923	0·81	2·20	3·01				

DIVISION 3.—REPORT—SANITARY ENGINEER'S BRANCH.

PUBLIC BUILDINGS.

During the year ended 30th June, 1927, plans and specifications of new buildings and alterations to existing buildings have been examined and dealt with in accordance with the provision of Part LX., Division I., of the Act as follows :—

Class of Building.	Sets of Plans Examined.		
	Erection.	Alteration.	Total.
Theatres	2	4	6
Picture Theatres	25	21	46
Dance Halls	8	4	12
Public Halls, Churches, and Sunday Schools	105	80	185
Day Schools	16	8	24
Public Hospitals	1	9	10
Infectious Diseases Hospitals	..	..	..
Other Public Buildings	50	30	80
Total Public Buildings	207	156	363
Private Hospitals	4	27	31
	211	183	394

PRIVATE HOSPITALS.

Number of registered private hospitals on 30th June, 1926	475
Number of new private hospitals registered 1926–27	31
Number of private hospitals closed during 1926–27	41
Number of private hospitals registered on 30th June, 1927	465

Note.—Of the last number, 311 contain five or more beds and 154 less than five beds.

During the same period the opening was approved for public purposes of the following buildings :—

Class.	Number.
Theatres	Nil
Open Air Theatres	1
Public Halls	62
Mechanics' Institutes	13
Stands, Tents, &c.	15
Schools	29
Churches	48
Sunday Schools	23
Salvation Army Barracks	8
Public Hospitals	Nil
Benevolent Institutions	Nil
Total	199
Day Inspections—	
General Inspections	907
Inspections of Electric Installation	517
Tests of mechanical ventilation systems	13
Night Inspections—	
Enforcement of Regulations	116
Collection of Air Samples	30
Total Inspections	1,583

MECHANICAL VENTILATION SYSTEMS IN PUBLIC BUILDINGS TESTED DURING YEAR 1926–27.

Date.	District.	Building Inspected.	Result of Test.
16.7.26	Leake-street, North Essendon	Picture Theatre	Quantity of air circulated complies with the requirements of the Commission
23.7.26	Maffra	Mechanics' Hall	,, ,, ,, ,,
27.7.26	Plenty-road, Preston ..	Gowerville Picture Theatre ..	,, ,, ,, ,,
11.11.26	Glenhuntly-road, Glenhuntly	Glenhuntly Picture Theatre	,, ,, ,, ,,
12.11.26	Commercial-street, Korumburra	Korumburra Picture Theatre	,, ,, ,, ,,
7.2.27	Union-road, Ascot Vale ..	New Ascot Picture Theatre ..	,, ,, ,, ,,
8·2.27	Bourke-street Melbourne ..	Strand Picture Theatre ..	,, ,, ,, ,,
24.3.27	Flinders-lane, Melbourne ..	St. Paul's Cathedral Chapter House	,, ,, ,, ,,
26.3.27	Moorabool-street, Geelong ..	Palais Royal	,, ,, ,, ,,
24.6.27	Ferguson-street, Williamstown	City Hall	,, ,, ,, ,,
10.8.26	Little Malop-street, Geelong	Regent Picture Theatre ..	Ventilation as previously reported, alterations in hand to comply with requirements of Commission
24.2.27	Crockford-street, Port Melbourne	Eclipse Picture Theatre ..	Ventilation ineffective through removal of fan housing. Requirements issued to rectify same
30.6.27	Chelsea	Masons' Picture Theatre ..	Two of four exhaust fans out of action. Efficiency of system doubtful. To be further investigated

AIR SAMPLES COLLECTED FOR ANALYSIS DURING PUBLIC OCCUPATION (NIGHT).

Date.	District.	Building Inspected.	Result of Test.
3.7.26	Carlisle-street, St. Kilda ..	Victory Picture Theatre ..	Held over in view of alterations to theatre
8.7.26	Bourke-street, Melbourne ..	Theatre Royal	Further tests to be made
17.7.26	Collins-street, Melbourne ..	Athenaeum Theatre ..	,, ,, ,,
21.7.26	Chapel-street, Prahran ..	Prahran Public Library ..	,, ,, ,,
24.7.26	Leake-street, North Essendon	Picture Theatre	No artificial warming. Ventilation system not in operation, and temperature 6° below Department's minimum, with high CO_2 content
7.8.26	Lygon-street, East Brunswick	Lygon Picture Theatre ..	CO_2 results exceed Department's maximum allowance
14.8.26	Bourke-road, Camberwell ..	Camberwell Picture Theatre	Natural ventilation; theatre since disused
28.8.26	Gordon-street, Elsternwick ..	Elsternwick Picture Theatre	CO_2 results exceed Department's maximum allowance. Further inlet vents required.
1.9.26	Bourke-street, Melbourne ..	Gaiety Picture Theatre ..	General conditions of sense and CO_2 content unsatisfactory. A system of mechanical ventilation required
4.9.26	Faraday-street, Carlton ..	Carlton Picture Theatre ..	Sense impressions bad, insufficient inlet ventilation
8.1.27	Glenhuntly-road, Glenhuntly	Glenhuntly Picture Theatre	Substantially complies with Commission's requirements
13.1.27	Bourke-street, Melbourne ..	Melba Picture Theatre ..	To be repeated when full house available
15.1.27	Toorak-road, South Yarra ..	Regent Picture Theatre ..	Substantially complies with Commission's requirements as to temperature, humidity, and CO_2 content
19.1.27	Bourke-street Melbourne ..	Theatre Royal	Further investigations to be made
22.1.27	High-street, Kew	Rialto Picture Theatre ..	,, ,, ,, ,,
26.1.27	Bourke-street, Melbourne ..	Strand Picture Theatre ..	Substantially complies with Commission's requirements
3.2.27	Swanston-street, Melbourne	Capitol Theatre (Stalls) ..	Further investigation to be made
5.3.27	Hopkins-street, Footscray ..	Trocadero Picture Theatre ..	Substantially complies with Commission's requirements

AIR SAMPLES COLLECTED FOR ANALYSIS DURING PUBLIC OCCUPATION (NIGHT)—*continued.*

Date.	District.	Building Inspected.	Result of Test.
9.3.27	Exhibition-street, Melbourne	His Majesty's Theatre ..	Further investigations to be made
12.3.27	Collins-street, Melbourne ..	Auditorium	Further investigations to be made
19.3.27	Sydney-road, Coburg ..	Grand Picture Theatre ..	Complies with Commission's requirements
26.3.27	Moorabool-street, Geelong ..	Palais Royal	Substantially complied with Commission's requirements
30.3.27	Swanston-street, Melbourne	Capitol Theatre (Dress Circle)	Further investigations to be made
14.5.27	Sydney-road, Coburg ..	Grand Picture Theatre ..	Complied with Commission's requirements
21.5.27	Glenhuntly-road, Glenhuntly	Glenhuntly Picture Theatre	Mechanical ventilation system at 50 per cent. capacity, failed to fully comply with Commission's requirements
4.6.27	Faraday-street, Carlton ..	Carlton Picture Theatre ..	Did not comply with Commission's requirements. Mechanical ventilation system required to be installed
11.6.27	Toorak-road, South Yarra ..	Regent Picture Theatre ..	Did not comply with Commission's requirements in dress circle
18.6.27	Lygon-street, East Brunswick	Lygon Picture Theatre ..	In conjunction with test of 7th August, 1926, showed mechanical ventilation system installed to be unsatisfactory as to compliance with Commission's requirements
20.6.27	Flinders-lane, Melbourne ..	St. Paul's Cathedral Chapter House	Complied with Commission's requirements
25.6.27	Burke-road, Camberwell ..	Broadway (late "Our") Theatre	In conjunction with previous tests showed mechanical ventilation system installed to be unsatisfactory as to compliance with Commission's requirements

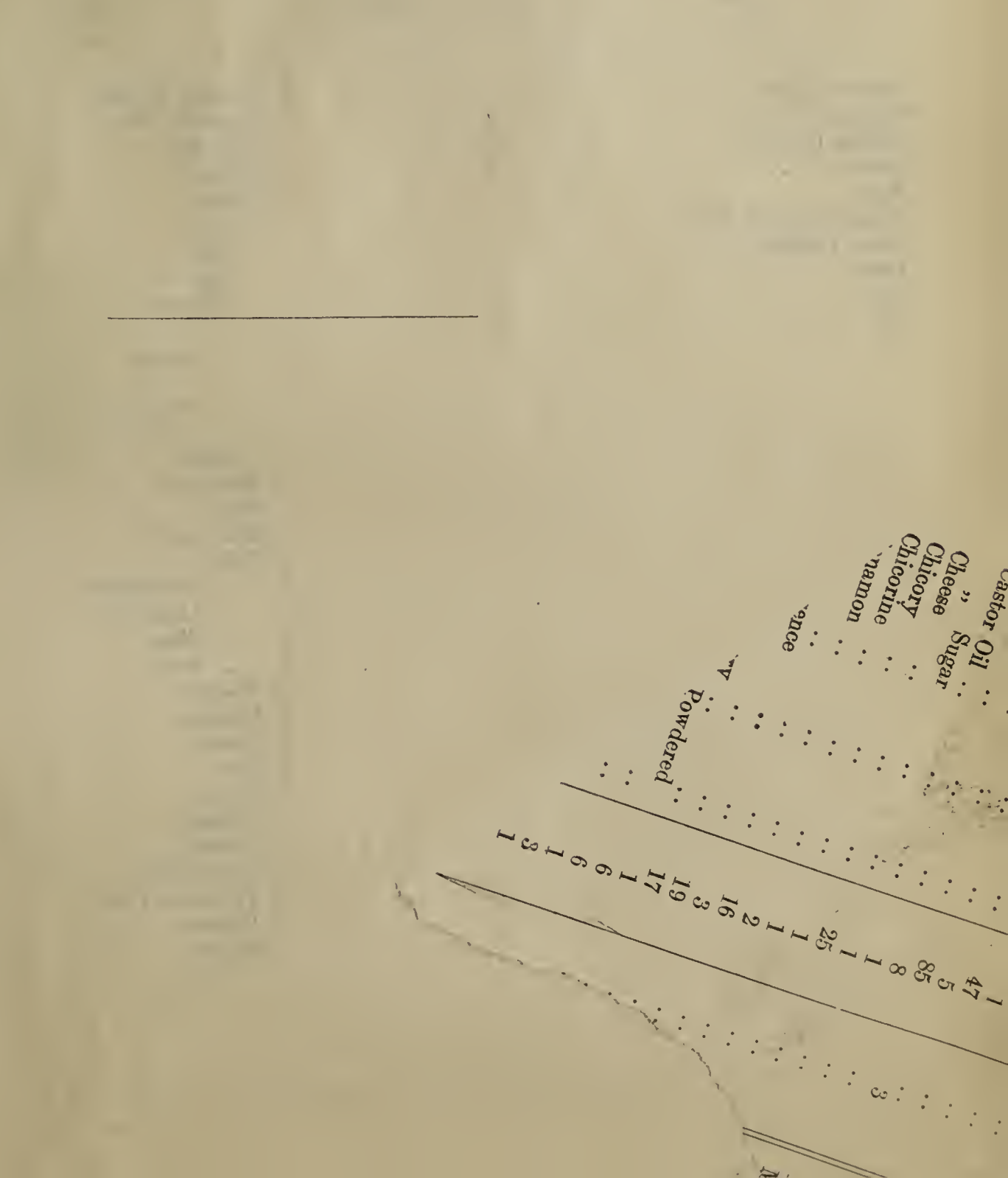
SPECIAL TECHNICAL INSPECTIONS BY C. E. B. WALDRON, M.Sc., BUILDING INSPECTOR.

Date.	District.	Matter Investigated.	Outcome.
14.7.26	Violet Town ..	Proposed Saleyards (Municipal)—Inspection of site	Site approved
14.7.26	Violet Town ..	J. Watkins, Butcher, Slaughterhouse—Inspection of above	Required to rectify present insanitary condition of premises
31.7.26	"Adwalton," Wattle Tree-road, Malvern	"Briar" Gas Heater	Heater in small sizes up to 4 gallons, safe in bathrooms, &c., without special provision of flue, cowl, &c.
3.8.26	Commercial-road, Melbourne	Fume Chamber, Bio. Chemical Laboratory, Alfred Hospital	Installation satisfactory
5.8.26	Latrobe - street, Melbourne	Naylor's Patent Economizer and Smoke Consumer Co., Workingmen's College—Observations during trial run	Further observations required to satisfactorily prove its compliance with Smoke Abatement Regulations
27.8.26	Clayton ..	Septic Tank, Talbot Epileptic Colony ..	Further investigations to be made
20.10.26	Bendigo ..	Bendigo Sewerage Farm	Arrangements made with Bendigo Sewerage Authority for the gauging of outfall sewer and chemical analyses of samples therefrom
11.2.27	Dandenong ..	Gippsland Co-operative Bacon Factory, additions thereto—Inspection of above	Approval to use granted
14.2.27 and 23.3.27	Melbourne ..	M.C.C. Abattoirs. Tripery—Inspection of above	Unapproved use of portion of tripery premises as changing room, referred to Commission
3.3.27	Kyabram ..	H. G. A. Ruler's proposed Saleyard—Inspection of site	The subject of drafting regulations for cattle saleyards, referred to the Sanitary Engineer.
3.3.27	Kyabram ..	Storm water and sullage disposal area—Inspection of above area	Further consideration deferred until result of improvements to public water supply is known
7.3.27	Footscray ..	Michaelis, Hallenstein and Co., Glue Factory—Inspection of above	General conditions and cleanliness satisfactory

SPECIAL TECHNICAL INSPECTIONS BY C. E. B. WALDRON, M.Sc., BUILDING INSPECTOR—*continued.*

Date.	District.	Matter Investigated.	Outcome.
15.3.27 to 17.3.27	Sydney, (New South Wales)	Proposed Gelatine Factory at Burnley, by Davis Gelatine Co.—Inspections *re* above	Report of inspections of sources of raw materials for glue and gelatine, and of Davis Gelatine Co. Factory at Botany, presented to Commission
22.3.27	Richmond ..	R.C.C. Abattoirs. New cattle, sheep, and pig holding pens—Inspection of above	Approval to use granted
25.3.27	Richmond ..	Site of proposed Gelatine Factory, for Davis Gelatine Co.—Inspection of site	Plans presented of proposed Gelatine Factory did not comply with Offensive Trades Regulations 1925
24.5.27	Morwell ..	Capad's proposed Milk Depot—Inspection of site	Site unsatisfactory as to disposal of sullage water
2.6.27	Fawkner ..	Crematorium, New Melbourne General Gemetery—Inspection of above	Approval to use granted

Note.—Owing to the absence of the Sanitary Engineer in his capacity as Secretary of the "Royal Commission on Sanitation, 1926," and to the consequent demands upon his time after resuming his normal duties, the record of the latter in respect of special technical work for the year ending 30th June, 1927, will appear in the Sixth Report.



DIVISION 4.

FOOD INSPECTION.

List of Samples taken by Inspectors of the Public Health Department and Analysed by the Commission's Officers during the Year ended 30th June, 1927.

Article.	Analysed.	Adulterated.	Article.	Analysed.	Adulterated.
Aerated Water	2	..	Gin	23	17
Air	274	..	Honey	2	1
Bacon	4	..	Imitation Cordial	2	..
Bay Rum	2	2	Meat	10	8
Brandy	15	8	Milk	37	..
Butter	8	2	,, Skim	1	..
Cheese	10	..	Peroxylin, Blue	1	..
Confectionery	13	..	,, Red	1	..
Cordial	3	..	Pickles	1	1
Cream	9	..	Rum	10	4
Culinary Essence	5	1	Sausagemeat	1	..
Diabetic Bread	6	..	Schnapps	4	3
Dust	4	..	Soil	21	..
Effluent	4	..	Water	26	..
Fish	6	..	Whisky	70	42
Flooring "Pavelite" ..	2	..	Wine	13	..
Flour	1	..			
Gelatine	7	3		598	92

List of Samples taken by Municipal Inspectors and Analysed by the Commission's Officers during the Year ended 30th June, 1927.

Article.	Analysed.	Adulterated.	Article.	Analysed.	Adulterated.
Aerated Water	13	1	Custard Powder	4	..
Bacon	2	..	Digestive Meal	3	..
Baking Powder	12		Dripping	7	..
Barley	1		Effluent	8	..
Beer			Flour	13	..
Bi-carbonate of Soda			inger	4	..
Black Pudding ..			avox	4	..
Bran ..			ney	4	..
Brawn			Cream	28	15
Br			.. .. ..	2	..
			Sugar	1	..
			.. .. ..	7	2
			rystals	3	..
			.. .. ..	5	..
			alzena	5	..
			Margarine	1	..
			Meat	5	..
			Mincemeat	34	6
			Milk	977	53
			,, Condensed	1	..
			,, Dried Skim	5	..
		.	,, Skim	1	1
		.	,, Sour	35	2
		..	Mustard	10	..
		..	Oatmeal	16	..
		1	Pastry	3	..
		..	Peas	1	..
		..	Pepper	26	..
		..	Pimento	2	..
		1	Pollard	1	..
		..	Preservative	2	..
		..	Preserved Fruit	1	.
		..	Prunes	1	.
		..	Raisins	4	.

LIST OF SAMPLES TAKEN BY MUNICIPAL INSPECTORS AND ANALYSED BY THE COMMISSION'S OFFICERS DURING THE YEAR ENDED 30TH JUNE, 1927—*continued.*

Article.	Analysed.	Adulterated.	Article.	Analysed.	Adulterated.
Rapidice	2	..	Tapioca	3	..
Rice	2	..	Tartaric Acid	4	..
Sago	1	..	Tea	10	..
Sauce	7	..	Tinned Fish	4	..
Sausagemeat	170	15	Turmeric	1	..
Sausage, German	4	..	Vinegar	9	..
Saveloys	4	1	Water	3	..
Separated Butter	1	..	White Pudding	6	..
Spice	3	..	Wine	3	..
Self-raising Flour	6	..			
Soap	16	7			
Sulphur	1	..	Total	1,848	108

DEPARTMENTAL PROSECUTIONS, FINES, AND COSTS FOR THE YEAR ENDING 30TH JUNE, 1927.

Year.	Number of Prosecutions.	Fines.	Costs.
		£ *s.* *d.*	£ *s.* *d.*
1926–27	122	421 15 0	281 14 4

DIVISION 5.

BY-LAWS OF COUNCILS.

By-laws made by Councils under the Health Acts and submitted to the Commission before Approval of the Governor in Council for Period 1st July, 1926, to 30th June, 1927.

Municipality	Number.	Subject
Cities—		
Caulfield	51	Collection of refuse
Hawthorn	98	Refuse receptacles
,, ...	39	Keeping of horses and cattle
Malvern	74	Regulating the keeping of animals
Oakleigh	31	Regulating the keeping of animals
Richmond	100	Keeping of animals and combustibles
South Melbourne	234	Meat supervision fees for examining and branding at abattoirs
,, ...	235	Conditioning the keeping of animals
Williamstown	86	Refuse disposal
Boroughs—		
Eaglehawk	31	Fees for registration of premises
Port Fairy	11	Collection and disposal of refuse
Shires—		
Alberton	28	Collection and disposal of refuse
Beechworth	39	Refuse disposal
Broadford	12	Refuse receptacles
,, ...	13	Manure receptacles
,, ...	14	Keeping of poultry
,, ...	15	Nightsoil disposal
Cohuna	7	Collection and disposal of refuse
Dimboola	24	Fees for registration of premises
Lowan	26	Fees for registration of premises
Mirboo	10	Refuse disposal
,, ...	11	Nightsoil disposal
Moorabbin	49	Delimiting area for keeping of cows
,, ...	51	Collection removal and disposal of refuse
Morwell	14	Refuse disposal
Mount Rouse	21	Nightsoil disposal (double pan service)
Walpeup	15	Collection removal and disposal of refuse
Warragul	31	Refuse disposal
Yarrawonga	42	Fees for registration of premises

DIVISION 6.

REPORTS OF DISTRICT HEALTH OFFICERS.

(*a*) REPORT OF THE DISTRICT HEALTH OFFICER, CENTRAL HEALTH AREA, 1926–27.

Part I.—Administration.

The Central District has once more been decreased in area in the past year. The Shire of Corio has been removed and added to the Western District.

A more important change is the proposed division of the remainder into North and South portions. The River Yarra is the boundary, except in the City of Melbourne area, where the municipal boundary south of the river is the dividing line, and the Shire of Healesville which is included in the Southern subdivision.

During the second quarter the former District Health Officer, Dr. J. J. Johnston, retired, and was suceeded by the present writer. No second appointment was made, so that for the rest of the year there was no second officer available for the district.

The appointment of a Senior Health and Liquor Inspector and the transference of two inspectors to other Districts has been partially balanced by the appointment of Mr. Clowes to the Southern portion and of Mr. Lennox to the Northern.

It is hoped that the appointment of another District Health Officer and two Health Inspectors to the double District will provide ample staff for the coming year.

With the appointment of the Senior Health Inspector (Mr. Mellis) it is hoped that the overlapping that has occurred will be avoided.

Dr. R. Harris, who has been appointed District Health Officer, was available for the District, during June, 1927.

Part 2.—Duties.

The duties have been divided about equally between the country and the metropolitan areas. In the former area the following municipalities were visited :—

Bacchus Marsh.	Healesville.
Ballan.	Heidelberg.
Blackburn and Mitcham.	Kilmore.
Berwick.	Lillydale.
Broadford.	Melton.
Bulla.	Moorabbin.
Carrum.	Mornington.
Cranbourne.	Phillip Island and Woolamai.
Dandenong.	Ringwood.
Doncaster.	Romsey.
Eltham.	Upper Yarra.
Fern Tree Gully.	Werribee.
Frankston and Hastings.	Whittlesea.

The purpose of these visits varied and necessitated times ranging from one to ten days.

The following Councils were addressed on various subjects :—

Malvern.	Oakleigh.
Flinders.	Frankston and Hastings.

Sanitary Surveys.

Berwick (2).	Fern Tree Gully.
Whittlesea.	

Municipal Health Inspectors.

The following Shires are still without a qualified Inspector :—

(1) Bacchus Marsh, Bulla, Gisborne, Romsey.
(2) Cranbourne.

The first group have lately had a conference, and it is hoped that they will unite to form a group with Werribee Shire. Cranbourne has so far made no obvious move toward the appointment.

The other changes in the district are :—

Wonthaggi Borough—Phillip Island and Woolamai.—Joint Health Inspector (deceased).
Berwick Shire.—Whole time certificated Health Inspector appointed.
Whittlesea Shire.—Whole time certificated Health Inspector appointed.
Mornington Shire.—Part-time Health Inspector. Now whole-time.

In the above places the appointment of a qualified or whole-time officer has made marked changes for the better.

The following investigations were made :—

Smoke Nuisance. Commonwealth Mills.
Sanitation of Timber Mills.
Elwood Canal.
Foreshore Sanitation.
Nighsoil Depots—Dandenong, Ringwood, and Vermont.
Pollution of Streams (still in progress).
Holiday Camps Sanitation.
Scouts' Camps Sanitation.
Work Gang Camps Sanitation.
Extension of Meat Areas.
Holiday Resorts Sanitary Conveniences.
Foreshore Drainage.
Vinegar (Standard).
Roof Paint (Safety of).

The smoke nuisances were abated by the destruction by fire of the factory concerned.

The reports on the timber mills are receiving attention from the various councils, and those that have been revisited have shown a good improvement following the action taken by the local inspectors.

Stream pollution, foreshore sanitation, camps, and public conveniences are matters also referred to the councils, but, so far, no opportunity has arisen to see the effect of their action. It is hoped that inspections during the coming summer will show some return for the work done.

The roof paint and vinegar inquiries disclosed nothing abnormal, but served to allay a fear that improper practices were in use.

The nightsoil depots have received much attention, and their files have become voluminous. Shortly—The Ringwood depot was approved. The Vermont depot was not approved, and the Dandenong site was not gone on with on account of opposition from a neighbouring Shire. In reference to the question of nightsoil disposal the most striking thing is the general all-round improvement. This applies to the depots under the control of the Councils and of the Melbourne and Metropolitan Board. The 1926 amendment of the Act has not yet been given effect to in the case of the Burwood depot, although the time allowed for its vacation has elapsed. On the other hand there is so much improvement in its condition that its immediate removal is not an urgent matter. The domestic nightsoil arrangements outside the sewered areas has not kept pace with the disposal improvements. The majority of domestic closets throughout the district are not up to a sanitary standard of construction. There are several councils that have taken a serious view of the question, and some that are insisting on proper construction and the use of disinfectants. The new regulations are helping to mend this unsatisfactory state, and where there is an energetic inspector there is a marked improvement. It will take several years, however, for any real effect to be seen.

Another note is the increased interest that is being taken in septic tank installations. It is now seldom that the plans submitted escape a searching investigation, nor is there so much opportunity for venal tradesmen or contractors to undersell the conscientious builders and have their imperfect plans passed by a not-interested council.

INFECTIOUS DISEASES.

The outstanding feature of the year is the increase in diphtheria and scarlet fever.

The attached tables give the number of cases reported in the various portions of the district, and the corresponding rates per 100,000 population, for the financial year 1st July, 1926, to 30th June, 1927.

Diphtheria.—There were 327 more cases reported this year than last. The rate increase is 143–168. This increase is almost wholly due to the increase in the northern metropolitan areas, where the rate increase was 179–230. The largest increase was in the Southern C Group, which comprises the Peninsula Shires. The rate increase is 59–230. This was largely accounted for by the epidemic at Hastings, which small locality had twenty cases.

Several councils were addressed on the advisability of an active immunization campaign, and despite the propaganda of some misinformed persons, a large number of children were treated.

Northcote City continues its active measures, and it is now showing the effects. These other councils have also carried out campaigns with the help of this Department :—

Oakleigh	Bacchus Marsh	Romsey
Broadford	Mordialloc	Moorabbin
Carrum	Ballan	Frankston and Hastings.
Hawthorn		

In these places the Department supplied all the material required, and lent the services of the District Health Officer and the District Health Inspector.

The borough of Carrum, having started the campaign and progressed so far as the Department would help, continued no further. They naturally did not show any benefit to them.

The shire of Frankston and Hastings was visited by a small but alarming outbreak. At the request of the Council the Department officers established a small laboratory and conducted an intensive campaign, with gratifying results.

During the campaign nearly 100 of the children were examined by Schicking, swabbing, or both Schicking and swabbing. The parents and home contacts of all cases and some of the contacts of swab positive children were also examined and swabbed. As a result of the campaign, three incubating cases of diphtheria and seventeen carriers were discovered. Since the campaign was completed only two cases of diphtheria have been reported from the shire, neither of these patients being of school age.

I am able to affirm that the thorough swabbing and immunization of school children will go far in preventing more than a few sporadic cases. The striking example of the effect of immunization is seen in Moorabbin, where a high rate has been followed by the almost total cessation of diphtheria. In this shire, for the financial year 1924–25, 26 cases of diphtheria were reported, for the year 1925–26 43 cases were reported, while for the year 1926–27 the cases have been reduced to only five.

Scarlet Fever.—This disease shows an increase in the incidence rate of about 100 per cent. No one district is responsible for this, but there is a regular increase over the whole district. The disease is as usual mild, and no great number of deaths or complications have been reported.

Typhoid Fever.—A slight increase is noticeable, i.e., 7–9.

Camberwell, Heidelberg, and Oakleigh still keep a high rate, while Kew and Hawthorn appear to be on the increase. A definite centre has not thus far been noted, though the high rates at the middle eastern part of the town suggest that there is room for effective control.

In the industrial parts, the cities of Footscray and Fitzroy head the list with twelve and eleven cases respectively (rates 25 and 33). No common factor can be found in these figures. The persistence of typhoid in those areas that are not generally sewered must be expected. But in a suburb like Fitzroy this does not appear.

It must be remembered, however, that the number of cases is so small compared to other diseases that a group of cases round one carrier will account for the high increases noted, and it is probable that the above figures are not to be relied on in local rates.

Tuberculosis.—This disease persists, and although there is over a period of years a decided and regular fall, there is nothing that will be of interest in any one year's figures.

Other Diseases.—The other diseases are too small in numbers to call for any district comment.

No "quarantine" diseases have occurred.

QUARTER ENDED 30TH JUNE, 1927—HEALTH INSPECTOR'S WORK.

Inspections.	Metropolitan.	Extra Metropolitan.	Totals.
Abattoirs	20	30	50
Bakers	59	31	90
Boarding-houses, Eating and Lodging Houses ..	120	48	168
Butchers	142	47	189
Dairies	15	2	17
Factories	29	5	34
Government Institutions	16	11	27
Grocers	210	80	290
Hairdressers	47	19	66
Hospitals	7	..	7
Hotels	14	35	49
Investigations	39	..	39
Offensive Trades	7	..	7
Piggeries	3	9	12
Public Buildings	31	21	52
Railway Stations	1	5	6
Recreation Grounds	1	2	3
Sanitary	70	41	111
Shops	274	89	363
Vehicles	56	42	98
Wharfs	1	..	1
	1,162	517	1,679

Prosecution reports were made against six persons, involving eleven breaches of the Health Act.

Brought forward from previous quarter seven, making a total of thirteen.

		£ s. d.		£ s. d.
Prosecutions—				
Successful	7 .. Fines	28 0 0 ..	Costs	14 3 8
Dismissed	—			
Withdrawn	—			
Referred to Councils ..	—			
Cautions	1			
No action	2			
Undecided	3			
	13	28 0 0		14 3 8

Seizures—	
Creamoats	2 lb.
Dried Peaches	6 lb.
Oysters	5 bags
Prunes	2 lb.
Rolled Oats	3 lb.

QUARTER ENDED 30TH JUNE, 1927—LIQUOR INSPECTION WORK.

Inspections—	
Metropolitan	49
Country	178
Race-course Bars	156
Licensed Stores	12
Sports Grounds	23
Railway Stations	2
Total	420

Prosecution reports were made against 31 persons, involving 48 breaches of the Health and Goods Act.

Brought forward from previous quarter 18, making the total 49.

		£ s. d.		£ s. d.
Health Act—				
Prosecutions	1 .. Fines	0 5 0 ..	Costs	0 16 0
Cautions	4		Expenses	6 6 0
No action	3			
Undecided	8			
Goods Act—				
Prosecutions	4 .. Fines	19 0 0 ..	Costs	8 14 0
Cautions	9		Expenses	15 18 0
No action	9			
Undecided	11			
	49	19 5 0		31 14 0

RECOMMENDATIONS.

1. A continuance and extension of the anti-diphtheria measures.

2. The insistence on the appointment of qualified inspectors to the municipalities that are at present without one.

C. R. MERRILLEES,
District Health Officer.

Melbourne, 15th September, 1927.

(*b*) REPORT OF THE DISTRICT HEALTH OFFICER, NORTH-CENTRAL HEALTH AREA, 1926–27.

During the past year, the whole of the area has been visited and carefully supervised by the District Health Inspector and myself. Decided sanitary improvement is evident throughout, but constant vigilance will be necessary to ensure its permanence. Increased knowledge of the Health Act and regulations has everywhere been observed, and the public now realize the necessity to use statutory powers in the control of certain operations.

This fact facilitated inspections and co-operation in securing compliance with requirements.

Inspections numbered 2,365. Apart from routine visits many investigations have been made.

From time to time, it was necessary to take firm steps to enforce the regulations, but such need is diminishing. The following table indicates legal action taken :—

Prosecution Reports.	Breaches.	Prosecutions.	Fines.	Costs.	Cautions.	Commission's Costs.
			£ s. d.	£ s. d.		£ s. d.
22	44	10	40 0 0	11 0 0	7	5 0 0

In other, less serious, cases notices were served ordering remedial measures, and have in every case been obeyed. In cases of successful prosecution, it has not infrequently happened that the offender has sold out and left the district. People will not knowingly deal from a tradesman convicted of having dirty premises.

Infectious Diseases.

The incidence is shown hereunder :—

	1927. Cases.	1926. Cases.	
Diphtheria	153	104	Increase 50 per cent.
Scarlet Fever	40	83	Decrease 50 per cent.
Typhoid Fever	23	86	Decrease 70 per cent.
Tuberculosis	78	118	Decrease 30 per cent.

Excepting diphtheria (50 per cent. increase) there has been a gratifying decrease, the figures being the lowest for many years.

Schick Test.

During July, 1926, after a diphtheria outbreak in Kerang Shire, Schick testing and immunizing were carried out, five hundred and fifty children being treated at Kerang, and 130 at Quambatook.

Other centres became interested and made inquiries, but the matter ended there.

The "Anti-vivisectionist Society" distributed many "authoritative" pamphlets antagonistic to the practice, besides which others—including teachers and clergymen—persistently misrepresented it.

The extension of this protective treatment has been severely handicapped by such propaganda, which is proving a real obstacle to public health work. Under the circumstances a counter-publicity campaign seems advisable to show the benefit of such treatment. It is advisable to conduct this work only where those concerned are agreeable.

Bacteriological.

The Commonwealth Health Laboratory at Bendigo is fully equipped for the work. This is a great convenience, as results can be obtained in half the time previously taken. This applies especially to throat swabs and cultures.

The Laboratory also does bowel examinations, Wassermann tests, and on the clinical side, X-ray examinations, test meals, &c.

Sanitation.

(*a*) *Local Administration*—

Little departure from the unsatisfactory state of affairs noted last year has been made. A reactionary movement has been initiated by certain shires regarding the status of Medical Officers of Health ; they claim the right of appointment and dismissal of these officers independently of the approval of the Commission. Needless to say, such an arrangement would be destructive of the whole system of expert health work.

Again, in other places, complaint is made of interference by the departmental officers.

In areas served by qualified inspectors, great improvement in the observance of the regulations has been noticed.

In view of the above, it would seem better for health administration to be undertaken solely by the central authority.

Health Inspectors.

Excepting Eaglehawk, Kerang, and Cohuna, all Councils now have a qnalified health inspector.

(*b*) *Stable Manure*—

The advent of the motor car has appreciably reduced the "fly" meance, by lessening the nnmber of accumulations of manure. Most food purveyors, including hotels, have now properly constructed manure middens, but there are still some stables adjacent to eating houses.

(*c*) *Public Sanitary Conveniences*—

Save in Bendigo, there are practically none : those existing are in connexion with hotels and sports grounds, and are often in a filthy condition. Even in Bendigo, although sewered, dirty public conveniences cause much complaint. The principal public urinal in Bendigo still remains unconnected with the sewer.

(*d*) *Water Supply*—

No marked pollution is anywhere observed. Centres connected with the Coliban system have storage sedimentation reservoirs, and the supply is always good.

Other towns obtain their main supply from the Murray, Goulburn, Loddon, and Campaspe Rivers, and from dams. River and dam water is usually turbid in winter.

There is no public filtration, and all these sources are liable to animal pollution.

A chlorination plant has recently been installed at Swan Hill, and its operation will be watched with much interest as affecting the local incidence of typhoid, which, for many years, has been the highest in Victoria.

At Elmore a water famine will be avoided in future by a dam being built across the Campaspe at Eppalock.

Bridgewater and Inglewood have now installed pumping plants on the Loddon, thus ensuring an abundant snpply at all seasons.

Heathcote has increased the height of the catchment dam.

(*e*) *Sewerage—Bendigo*—

Tenements sewered during the year numbered 600. The total nnmber connected up to date is about 2,600.

Absence of adequate purification at Epsom outfall persists. The action of the existing tanks is that of merely straining : the nnpurified effluent therefrom, after flowing over a strip of grassed land, enters a sewage pond known as May's Swamp, adjacent to Bendigo and Eaglehawk Creeks.

Early in the present year a by-pass leading to the Bendigo Creek was cut through the retaining bank to enable reduction of its volume in the event of its being likely to overflow its banks.

Great objection was raised by settlers lower down the Bendigo Creek. The advisability of allowing the contents of the swamp with safety to enter the Bendigo Creek can only be determined by a systematic series of analyses.

For the efficient treatment of the sewage, plans for a suitable purification plant were prepared and have been accepted. The means at present available cannot ensure a pure effluent. If proper scientific methods are not available before next winter, there will be a serious nuisance.

During the summer, the volume of sewage may be kept within bounds on the property of the Bendigo Sewerage Authority. Residents near the swamp, however, are loud in their complaints abont the smell in summer.

(*f*) *Sewerage in other parts*—

Preliminary arrangements have so far progressed in the towns of Echuca and Swan Hill that sewerage authorities have been constituted, and all that remains now is to take a poll of the residents.

Kyneton has done nothing further in regard to the sewerage scheme. Some hitch has occurred, but it is hoped that the difficulty is not insuperable.

(*g*) *Sanitary depots*—

There has been little improvement in the method of disposal of pan contents—a proper system does not obtain. One occasionally meets with shafts up to 15 feet deep filled up in layers. Depots are situated remote from habitation, and hence imperfect methods of treatment do not as a rule give rise to nuisance.

Several cess-pits were discovered during the year in close proximity to streams, and orders were given to fill them up forthwith.

(*h*) *Pan Closets*—

We find a serious menace to public health in the pan closets, of which very few indeed are satisfactory : it is seldom that the middenstead is not fouled with excreta. This disgusting condition occurs in newly-built as well as in old structures, and is due to faulty construction.

For years to come the pan closet must necessarily be the type of convenience used by the majority. Every householder should be compelled to provide proper conveniences. Sewerage authorities can compel the provision of proper privies where risk of fouling is negligible, but in the case of privies in unsewered areas (pan closets) where sanitary provision is most necessary, local authorities have no such power, or at least do not exercise it.

(*i*) *Drainage*—

Where good gradients exist, drainage presents few difficulties, and result of inattention is not serious.

In towns in the Murray Valley, not so favoured, the gradient being very low, councils need to provide paved street channels to obviate nuisance. But often none is provided, and in summer offensive pools are likely to be formed. Provision for drainage rests with councils, though the Local Government Act empowers them to compel householders to dispose of their own wastes.

That such provision can be made under difficult conditions is proved at Kyabram. Here, with small gradients, are seen simply constructed concrete channels, widely distributed, affording a very satisfactory drainage service.

(*j*) *Garbage disposal*—

In some municipalitirs, by-laws governing collection and disposal of garbage are never enforced. In Bendigo, where covered receptacles are required, half of the people use any sort of receptacle, mostly without lids. Orders to provide proper receptacles are frequently served on householders, but are ignored. I know of no record of prosecution in such cases.

Most townships have a reserve set apart as a tip. These places are untidy, but rats are rarely seen.

In small communities decomposable refuse is burnt or given to fowls, &c., consequently the official tip is seldom offensive.

(*k*) *Food Supplies*—

(*a*) *Meat*—

Butchers' shops, with few exceptions, are very clean and vehicles well cared for. As a result of systematic inspection, slaughterhouses are now sanitary. Walls impervious, some concrete, others sheet galvanized iron, and many structures have been rendered bird proof. This is very noticeable in those shire groups served by trained whole-time inspectors.

Allowing dogs at large on slaughtering premises still persists.

Diseased meat has been found in twenty-one separate towns, which indicates that meat areas would be of advantage in all populous centres.

Kyneton has the matter in hand, but Castlemaine, Echuca, Rochester, Swan Hill, and Kerang also need abattoirs and meat inspection.

One inspector could supervise two or more towns. The following could be grouped and economically managed :—

Echuca	Swan Hill.	Kyneton.
Rochester.	Kerang.	Castlemaine.
Elmore.		

Swine Fever—

An outbreak of swine fever occurred in the North and North-Western districts, and some 6,000 animals succumbed to it. The disease was eventually stamped out.

(*b*) *Bakers*—

Considerable improvement has resulted from rigid inspection of bakeries, &c. This again is particularly noticeable in shires with qualified inspectors. With these premises, it is just a matter of frequent clean-ups to keep down vermin (weevil and flour moths).

Thorough cleaning cannot be done where flour troughs are fixed. All bakeries should be provided with movable ones. It is pleasing to note that the regulation regarding the posting up of the cleanliness regulations is now universally observed.

(*c*) *Milk*—

The milk supply is capable of improvement. Inspection by Dairy Supervisors is limited to certain parts, and there are no specified regulations, everything being left to the discretion of the Inspector.

Steps are being taken to ensure that every milk purveyor shall display a copy of the cleanliness regulations in his premises.

In some places, the absence of cooling facilities develops contamination dangerous to health. This is very important where infant feeding is concerned. Much valuable information regarding milk is beng disseminated from the various Baby Health Centres.

Miscellaneous.

(*a*) *Glass Washing*—

Where water under pressure is available, fairly satisfactory glass washing facilities have now being provided in place of the disgusting slimy sinks. Much yet remains to be done at small shows and at race meetings, &c., where water under pressure is not available.

Ice cream vendors use the safe and sanitary wafer cups and cones. Paraffined paper tumblers are satisfactory, but have not been adopted generally, probably because of high cost and of inconvenience where large numbers have to be served.

Glass tumblers are still most commonly used. There is no reason why use of an inexpensive glass washer should not be insisted on at all places where water under pressure is not available.

All show and race committees will be asked to specify use of such contrivances as a necessary condition in the contract for letting of all booths and stalls.

(*b*) *Dental Clinc*—

After long agitation, a Dental Clinic has been established at Bendigo, and is of inestimable value to State School children. In the first fortnight 1,200 children received attention, and to cope with the work, an assistant will be required. The only children treated are those eight years and under, the ages when best results may be expected. The record of this work will be of great service and travelling dental clinics will probably visit all country centres. The value of early dental care cannot be estimated. Unquestionably it is a great advance and when people realize the benefit as reflected in the health of their children, all school children will ultimately be included.

The Commission visited this district earlier in the year and held conferences with the Councils of Swan Hill and Echuca respectively regarding accommodation for infectious diseases. The visit was greatly appreciated, and the Commission acquired much useful information concerning local activities in water supply, sewerage, irrigation, &c. Such visits should go far to reconcile conflicting view-points on matters affecting the promotion of public health.

C. P. ROWAN,
District Health Officer.

Bendigo, 23rd August, 1927.

(*c*) REPORT OF THE DISTRICT HEALTH OFFICER, NORTH-WESTERN AREA, 1926-27.

Extension of Health Area.

Owing to railway extensions, considerable improvement has been made in Murray River navigation, enabling steamers and barges to ply between Mildura and the sea. The advantages are great, but disadvantages have also resulted : formerly the water level was much lower and the river periodically cleansed by floods, thus admitting of less contamination. At present, street drainage pollutes the river which is the source of Mildura's domestic and drinking supply. Similar conditions obtain at Merbein and Redcliffs, causing risk of typhoid fever.

Notifiable Infectious Diseases.

—	Diphtheria.	Scarlet Fever.	Typhoid Fever.	Tuberculosis.	Encephalitis Lethargica.
1927	178	169	33	89	2
1926	154	86	73	93	2

—	Puerperal Fever.	Hydatids.	Dysentery.	Tetanus.	Cerebro-Spinal Meningitis.
1927	6	2	1	2	1
1926	4	Not notifiable till 4th August, 1926	..	1	2

1. Diphtheria was most prevalent in Ballarat City, 33 cases: Mildura Shire, 31 cases: and Dimboola Shire, 19 cases. During recent years Mildura district has had an unenviable reputation for diphtheria prevalence. To reduce the high incidence, anti-diphtheria measures were undertaken, with the result that no person immunized in 1926 has since contracted the disease, and since June of that year there has been a reduction of 22 cases.

2. Scarlet fever has been much more prevalent than usual, showing an increase of 89 cases.

3. Typhoid fever decreased from 73 to 33 cases. Educational work regarding this disease was carried out in Mildura district, and lectures were delivered in various townships. The disease has been so long endemic in Mildura that its origin is much obscured.

4. Pulmonary tuberculosis showed 89 cases compared with 93 for the previous year.

5. Of puerperal fever six cases occurred, being two in excess of the previous similar period. Four of these were under the care of a midwife who was subsequently de-registered.

6. Two cases of hydatids occurred since this disease was gazetted as notifiable on 4th August, 1926.

General Remarks.

School children to the number of 1,010 were medically examined, and about 50 per cent. of those affected received medical attention for dental, throat, and other defects.

Commercial travellers have frequently commented on hotel improvement, and expressed a hope that the present high standard would be maintained.

Offenders against the Health Acts are prosecuted only when the first inspection discloses glaring infringement, or when, after an initial warning, a later inspection reveals no improvement. Prosecutions, seven: fines, £33: costs, £15 10s.

2. Special inquiries and work:—

(*a*) Proposed new sanitary depot site at Horsham and opposition by adjoining landholder.

(*b*) Insanitary drain and creek at Ballarat North.

(*c*) Garbage collection and disposal at Maryborough, Donald, Avoca, and Ararat.

(*d*) Insanitary main sewer at St. Arnaud.

(*e*) Educational inspections with Council's Health Inspectors.

(*f*) Proposed holding of Labour Fair at Alfred Hall, Ballarat.

(*g*) Complaint against storage of manure at Brim railway sheds, Borung Shire.

(*h*) Proposed sanitary depot site at Cowangie.

(*i*) Collections of fly samples from sanitary depots in various towns and shires, by request of Royal Commission on Sanitation.

(*j*) Special inspections of public buildings, in conjunction with State Health Department's Building Inspector.

(*k*) Inquiry into unregistered midwives in Mildura and district.

(*l*) Investigation into swine fever outbreak at Ballarat, Ballarat North, Canadian, Buninyong, Mount Clear, &c., in conjunction with Stock Inspector.

(*m*) Lecture to Boy Scouts, Ballarat, for Public Health Badge, by District Health Inspector.

(*n*) Inquiries into typhoid fever outbreak in Mildura, and puerperal fever in Ballarat East.

(*o*) Sanitary surveys of Horsham Borough, Wimmera and Stawell Shires, and Stawell Borough.

(*p*) Drainage from offensive trade premises at Alfredton and Cardigan, causing contamination of natural stream.

(*q*) Insanitary conditions at Dowling Forest Race-course.

(*r*) Medical examination of State School children.

(*s*) Contamination of natural watercourse by drainage from Federal Distillery Company, Dunnstown.

(*t*) Lecture on venereal diseases and preventive measures, at Ballarat, by District Health Officer.

Much general work was also undertaken.

Part 2.—Insanitary Conditions Generally.

The more important are referred to below.

Boarding-houses were inspected and some found below standard requirements.

Many earth closets were in a deplorable condition, especially in public halls, &c., and private residences.

The closet building was frequently so dilapidated as to be dangerous to life.

Many back yards were untidy, and where no municipal service existed rubbish had been allowed to accumulate.

The total number of inspections was 1,187: of these, approximately, 600 were re-inspections.

There are still unregistered piggeries, but the recent gazettal of certain areas will soon produce beneficial results, and since last report, much improvement has taken place.

Also, slaughteryards, which are now all registered, generally show improvement: a number, however, require further attention.

In the sweeping and flushing of drains neglect is evident, some being choked by weeds.

Several septic tanks worked badly, owing to the injudicious use of disinfectants or the emptying of kitchen waste into the tanks.

Where the Dairy Supervision Act is in operation, dairies are fairly satisfactory—with a few bad exceptions. In similar premises where this Act is not in force, conditions found were frequently insanitary.

Certain councils are not wholly free from reproach regarding sanitary administration, but defects have been diminished.

Where feasible, the appointment of a qualified whole time health inspector would go far towards effecting further improvement.

Increased supervision of street channels and offensive trades, and extension of meat areas are desirable.

Part 3.

In some instances, sanitary conveniences were either tins or boxes, and the space beneath the seat, and surrounding the receptacle was bespattered with excreta, also flies were numerous. A standard pan and proper seat flap or cover should be provided.

In nearly all slaughteryards and piggeries there has been gratifying improvement.

That boarding-house keepers are not all fitted for that occupation is clearly indicated at times by the presence of unwholesome and untidy conditions.

Registration of unsuitable premises should be refused. Owing to financial considerations, provision for street drainage often presents grave difficulties, apart from engineering aspects. Where feasible, street channels should be constructed of concrete, as is being done in Rupanyup and Murtoa.

It may be mentioned here that the sewering of Ballarat is proceeding steadily, 229 additional premises having been connected with sewers since my last report.

Many small country State Schools are below standard as regards lighting, ventilation, and sanitation, and some are in a dangerous state owing to white ant infestation. Hat pegs are too close together and permit the spread of vermin. Where no sanitary service exists, burial of excreta (either by the teacher or boy pupils) is not always satisfactory. On notification, specified defects have been remedied by the Education Department.

Pollution of natural streams is a serious menace, and, besides the Murray, other rivers, such as the Wimmera, Richardson, and Avoca are contaminated from various sources.

Among the principal matters requiring attention are sewering of country towns, Mildura Town water supply, extension of baby health centres, and of bush nursing activities, and provision of dental and eye clinics.

Special Inquiries and general work included :—

(*a*) An outbreak of typhoid fever in Mildura Town.

(*b*) Puerperal fever in Ballarat East.

(*c*) Ballarat sewerage progress.

(*d*) Proposed anti-diphtheria campaign in part of Dimboola Shire.

(*e*) Results obtained from anti-diphtheria campaign held in Mildura and Mildura Shire in 1926.

(*f*) Medical examination of school children.

R. W. TELFORD,
District Health Officer,
North-Western District.

Ballarat, 15th August, 1927.

(*d*) REPORT OF THE DISTRICT HEALTH OFFICER, WESTERN HEALTH AREA, 1925-26.

Part 1.

(*a*) *District Health Officer's Work.*

1. Sanitary surveys made :—Geelong, Geelong West, Queenscliff, Bellarine Shire.

2. Councils addressed :—Geelong City, Geelong West, Borough of Queenscliff, Bellarine, Winchelsea, and Glenelg Shires.

3. Courts attended	1
4. Conferences attended	5
5. Schools inspected	13
6. Epidemics investigated	2
7. Private hospitals inspected	57
8. Special investigations	8

9. Miscellaneous :—Preparing and giving evidence before Royal Commission.

(*b*) *District Health Inspector's Work.*

1. Inspections made	1,793		
2. Prosecutions—			
By order of the Commission	15	..	Fines, £32
By municipal councils, in which D.H.I. gave evidence ..	7		

(*c*) *Medical Inspection of School Children.*

I inspected 1,672 boys and 121 girls, a total of 1,793 children, attending thirteen schools. On these visits I interviewed 175 parents. By arrangement, these inspections fitted in with the Education Department's plans.

There is urgent need of dental treatment for children in country districts, and travelling dental clinics would be welcomed. Usually a country dentist does not treat children, except for extractions.

Another need is a staff of school nurses to visit and advise parents. At present, parents of children showing marked defects, are personally interviewed by me, and railway fare concessions are available to enable them to seek special treatment.

To obtain the best result the following are requisite :—

(1) Travelling dental clinics.
(2) A travelling eye clinic.
(3) School nurses for rural areas.

Part 2.

(*a*) *Notifiable Infectious Diseases.*

The following table shows the number of cases of infectious diseases reported in the area since 1st January, 1922 :—

Year.	Diphtheria.	Scarlet Fever.	Typhoid Fever.	Tuberculosis.	Puerperal Fever.	Other Diseases.
Geelong and Suburbs.						
1922	200	30	7	10	..	1
1923	98	51	3	19	2	1
1924	134	24	1	15	..	2
1925	133	45	..	24	..	1
1926	170	10	1	21	..	..
1927 (to 30th June, 1927)	134	63	..	11	..	..
Six Country Towns.						
1922	159	21	4	14	..	..
1923	59	18	10	10	1	..
1924	47	31	2	11	..	..
1925	72	21	..	4	..	1
1926	9	13	1	7	..	..
1927 (to 30th June, 1927)	22	13	..	5	..	..
Nineteen Shires (including Colac Township).						
1922	386	86	7	18	..	4
1923	125	60	13	12	..	2
1924	117	97	11	26	2	1
1925	76	63	4	26	1	3
1926	41	53	4	17	..	2
1927 (to 30th June, 1927)	72	89	6	8	1	..

Diphtheria.—The steady diminution noticed during the last quinquennium has ceased, and an increase occurred throughout the area. This was manifest in Geelong in the latter half of 1926, and is still more marked in the eastern portion of the district. In Minhamite Shire there was an outbreak of nineteen cases, which was combated and suppressed by the Medical Officer of Health, notwithstanding the handicap due to absence of laboratory facilities in Geelong. The type of case was mild. Inspection of throats was carried out; also some swabbing was done.

Scarlet fever showed an increase in shires, also in Geelong and suburbs.

Typhoid fever was not unduly prevalent, cases were mostly sporadic, and call for no special comment.

Laboratory facilities are still quite inadequate, and I would again emphasize the necessity for proper provision being made in this connexion.

(*b*) *Sanitation.*

1. *Water Supplies.*—Koonongwootong Reservoir has been completed and water turned on in Coleraine and Casterton : in addition, the following towns and townships have public water supplies :—Colac, Warrnambool, Hamilton, Koroit, Mortlake, Lorne, Winchelsea, and Birregurra. One for Balmoral has recently been authorized.

At Portland, artesian bores near the town, yield an abundant supply. The Bellarine Peninsula scheme has advanced a stage, and will prove of incalculable value when completed.

Outside the abovementioned places, water for domestic use is obtained from roof catchments, bores, and wells : but the roof catchment supply is usually inadequate.

2. *Disposal of Night-soil.*—Sewerage operations are steadily progressing at Geelong, and there are now less than 350 pan closets in use. The sewerage authority will soon take over the pan service from the council, and will probably close one night-soil depot.

Already, Colac has about 8 miles of sewers, but at Lorne, with £2,000 available and plans prepared, the Waterworks Trust cannot see its way to undertake the work.

No new pan service has been introduced : old closets present usual faults, but new ones are in conformity with sanitary requirements.

At several night-soil depots, the ground was dealt with unsystematically, trenches being shallow, and pits either too wide or too deep.

Septic tanks are in excellent order, and connote an important advance in rural sanitation, when installed with due regard to their limitations and to local circumstances.

3. *Household Refuse.*—Refuse removal services are in operation in fifteen towns including, now, Casterton, Mortlake, Port Fairy, and Koroit. Mainly, services are weekly, and the material is disposed of at tips. Hamilton, with a population of 5,000, has no garbage service, but a by-law is being framed for such provision.

4. *Drainage of Towns.*—On the whole, drainage matters continue to be satisfactory, and no difficulty has arisen. At Lorne, however, one defective drain has been remodelled, but drainage trouble will recur until the township is sewered.

For the first time for several years, there was no complaint received regarding the pollution of either the Barwon or the Moyne Rivers, or concerning stench therefrom. In the case of the Barwon, the absence of trouble is mainly due to the sewerage, as only a few riverside industries remain unconnected therewith. Regarding the Moyne, good results followed steps taken by the Glaxo Company regarding drainage from their works.

(*c*) *Food Supplies.*

1. *Milk.*—The District Health Inspector inspected 22 dairies and dairy farms. In this connexion, the principal development was tuberculin testing of herds, from which Geelong and suburbs are supplied. Thirty-eight herds, comprising 860 cows, were tested, 52 reacted and were slaughtered, compensation being paid. In addition to tuberculin testing in and around Geelong, similar work was done in Colac Shire. Here there are 932 dairies, milking 25,400 cows—263 of these, 1.035 per cent., were found on testing to be tuberculous and were destroyed, £1,610 being paid in compensation.

2. *Meat.*—No new area has been proclaimed, but Colac meat area has recently been redefined to exclude places too distant from the abattoirs to ensure an economical meat supply. Hamilton Council has the question under consideration.

In districts where there is likelihood of the early establishment of meat areas, no action has been taken to secure structural alterations at slaughterhouses, but in other places, councils have enforced the provisions of the Offensive Trades Regulations. During the past two years, seventeen old insanitary slaughterhouses have been replaced by modern sanitarily-conditioned structures, having proper provision for disposal of drainage, waste products, &c. Old dilapidated slaughterhouses are gradually disappearing, and inspection in Hampden Shire, where structural alterations had not been insisted upon, showed great cleanliness. Improvement is most noticeable in districts having qualified health inspectors.

In butchers' shops greater attention has been paid to cleanliness, supervision of meat wrapping, and methods of delivery. Use of newspaper as an outer covering is now not so general.

3. *Bread, &c.*—The above remarks regarding meat apply equally to bread delivery, and some dirty baskets, for conveyance of bread by rail, were seized. Provision stores were well supervised, including grocery and confectionery shops, and—as regards cleanliness of glasses—hotels, soft drinks shops, show-grounds, and race-course booths.

(*d*) *Administration.*

In last year's report, attention was directed to the inadequate remuneration of some Medical Officers of Health. In some instances, the council still considers that the only duty of such officers is to deal with epidemic disease, and does not appear to recognize him as the council's adviser on all matters affecting the public health. Where the Medical Officer of Health is keen and well informed, the Health Acts are well administered, and some councils are especially strict regarding particular regulations. For instance, in one shire the Boarding-houses Regulations are well enforced, while in another they are practically a dead letter : similarly with the Septic Tank Regulations. The elimination of this unbalanced procedure has been the constant aim of the district staff, and, though still existing, it has been reduced.

While the Infectious Diseases, Cleanliness Regulations, General Sanitary and Registration Regulations are usually efficiently administered, the Boarding-houses, Public Buildings, and Rat Regulations are not so uniformly enforced.

Miscellaneous.

It is hoped, by means of meetings of hairdressers (several of which have been held at which the regulations have been carefully explained with good results), to secure the voluntary co-operation of the trade, and so raise the standard of cleanliness : inspection has disclosed that in many shops, otherwise well conducted, breaches occurred through the object of the regulations not being understood, and consequently not appreciated.

A similar policy was successfully pursued at Queenscliff and at Portland, and the regulations explained to numerously attended meetings of boarding-house proprietors. In

hotels also, a notable improvement has taken place concerning bathrooms and sanitary accommodation. One result of the attention bestowed on public buildings, is that nearly all bio-cabins are in full conformity with the Commission's Building Regulations.

Private hospitals have all been inspected, and many show structural improvement.

Rats and signs of their presence are frequently seen, especially in coastal towns. From the viewpoints of health conservation and economy, it is surprising that councils do not deal more vigorously with this pest. The only steps taken relate to the issue of poison.

During Health Week at Portland, films were exhibited, and addresses given by the local Medical Officer of Health and myself.

3. *Infant Welfare.*—A new baby health centre has been opened at Hamilton, and the staff at Geelong centre increased, rendering it possible for the various local centres to be open more frequently, and for a branch centre to operate one day each week at Queenscliff. The Newtown and Chilwell War Memorial will take the form of a special building for a baby health centre.

4. *Staff Change.*—During the year, Inspector Robinson was transferred to engage in the work of liquor inspection, and was succeeded here by Inspector Bennett.

(Signed) GEORGE COLE,
District Health Officer.

Geelong, 25th July, 1927.

(*e*) REPORT OF THE DISTRICT HEALTH OFFICER, EASTERN HEALTH AREA, 1926–27.

During the year, Yallourn (under the administration of the State Electricity Commission) was the only important township not visited.

Much was done to make municipal officers and councillors better acquainted with the requirements of the Health Acts, and their responsibility in relation thereto. Many Medical Officers of Health, however, regard their appointments lightly, and some Health Inspectors are not efficient. Eleven councils have either an old time Health Inspector or none at all. As Health Inspectors frequently perform other duties—such as rate collection, &c., their sanitary work suffers, but I think local health administration will improve in the near future.

Complaints regarding nuisance have been reported on and—in the main—promptly remedied.

Suitable manure bins are more numerous and larger: at some food stores manure is still put into old boxes and tins, and remains too long on the premises before removal.

In but few townships is there a proper refuse service, with the usual result—improper storage, removal, and disposal. Storage is done carelessly, and the bin, though of an approved type, is often without a suitable cover. There is no proper vehicle in use, rubbish being removed in an open cart.

Generally, refuse tips are satisfactorily situated, but in only two instances were the regulations for proper covering with earth complied with, and in one the material was simply dumped by the roadside.

Night-soil.—Construction of closets has improved, but many are still insanitary, due to soiling of seat, &c. In small townships, insanitary conditions are frequent in closets connected with public buildings. Public closet and urinal accommodation is rare.

Night-soil removal leaves much to be desired, for in most townships with a night-soil service the pans are collected during the night, with consequent soiling of the floors of the closets, and the last thing the contractor thinks of is to clean the night-soil vehicle. The sides of some of the apparently properly built wagons are canvas or other absorbent material.

Night-soil depots have the following faults:—Site too close to running water. Soil of unsuitable clay, demanding hard work in trenching and too much time for absorption of liquids. Proximity of depot to dairy farms.

Night-soil trenches are too wide and too deep. Depot established without providing for an isolation zone. Cattle and sheep allowed to agist on the depot site. Absence of enclosing fence. Material insufficiently covered. Absence of proper water supply.

No complaints have been received regarding septic tank effluents, though many of them are discharged into street gutters. The effluents of septic tanks in the township of Lakes Entrance, still discharge into the tidal waters of the North Arm at that place.

Drainage.—The house and street drainage of Gippsland townships leaves much to be desired, as grease traps are few in number, and the domestic slops are usually discharged directly into open brick shallow channels which lead to the street gutters. In many places the brick channels are wanting, and the slops run to a street gutter or to a vacant allotment by open drains, which being difficult to clean, are often in a dirty condition.

The final disposal of drainage is by allowing it to run into the nearest creek or river, causing pollution.

The Agricultural Department has taken no steps to deal with the pollution of the Macalister River, by the beet sugar factory, in Maffra. Complaints by the people of Sale, regarding the quality of the water supplied them, this water being diluted Maffra sewage, are frequent.

In three townships the question has been raised of taking advantage of the offer of the Government to assist financially in the sewering of the towns, but so far nothing definite has resulted.

Water Supplies.—The water supplies of the different townships controlled by municipalities or water trusts continue to be, with few exceptions, satisfactory.

Animals.—Swine continue to be kept within the limits fixed by councils.

Offensive Trades.—The Amending Act of December, 1926, making registration of piggeries a matter for the municipalities to decide for themselves, removes what has in the past been a frequent cause of irritation to many councils.

Though a gradual improvement in the construction of slaughter-yards has been noticed, much remains to be done before the meat supply is satisfactorily conditioned.

Defects are killing pens built of rough bush timber without impervious lining. The timber of these pens is often found to be covered by layers of blood and lime alternately laid on.

Notwithstanding efforts to instruct slaughtermen as to how to deal with blood and offal, blood is frequently found, and other offal is sometimes found lying on the ground in close proximity to the killing pens.

Little or no improvement has been made in piggeries.

Infectious Diseases.—The occurrence of infectious diseases shows decided improvement.

	1926–27.	1925–26.
Diphtheria	22	24
Scarlet Fever	30	58
Typhoid fever	2	2
Tuberculosis	13	26
Tetanus	1	3
Hydatid disease	1	—

In addition there were notified last year nine cases of infantile paralysis, and one case each of cerebro-spinal meningitis and encephalitis lethargica.

Diphtheria has occurred in small numbers in ten of the municipalities comprising the area, while eight have been entirely free from it.

Scarlet fever has occurred in numbers, varying from ten cases in Korumburra Shire, down to one case each in the shires of Traralgon and Woorayl.

Accommodation for cases of infectious diseases has been afforded by the special wards for infectious diseases at the Gippsland Hospital in Sale, the Western Gippsland Hospital in Warragul, and the Bairnsdale District Hospital. The practice of vaccination against small-pox continues to be but little practised, and apparently nothing but an epidemic of small-pox will awaken the people to the value of this small operation as a preventive measure.

The defects or failures to comply with the Private Hospitals Regulations found were insufficient means for providing proper ventilation, doors not marked as required, absence of fire buckets, and failure to keep the buckets filled with water.

Housing.—Generally, the housing is, as the winter climate of the area demands, good, but in too many cases the houses are in a bad state of repair.

Landlords still let for human occupation houses built of rough timber slabs, lined by hessian to which wall paper adheres in spots.

Washhouses, bathrooms, and closets are too often in a bad state of repair, and in some instances one closet has to serve for more than one household.

Boarding-houses.—In some shires much improvement has taken place in the boarding-houses, but in others, nothing has been done to bring the premises up to the standard demanded by the regulations.

Hotels showed improvement, but faults found in some were insufficient natural lighting, lack of or insufficiency of flyproofing to diningrooms and kitchens, arrangements for ventilation defective, and insanitary closets and urinals.

Food Supplies.—Considerable improvement has taken place in dairies. The chief faults are the proximity of the milk changing rooms to dirty and dusty byres, nearness of manure heaps to milking bails, dirty methods of milking and unsuitable vessels in use as milk containers.

Meat Supplies.—People slaughtering stock and handling the carcasses need education therein. In smaller townships slaughtering is still done in a primitive manner by running the beast into a small yard or under an open shed with a flooring of earth and there knocking it on the head.

In larger townships more slaughter-yards have killing pens with iron faced interiors, and with superstructures more or less bird-proof, but greater attention should be given to proper disposal of blood and offal.

The number of slaughter-yards complying with the Act has increased.

Butchers' carts are now cleaner than formerly, and though the premises of butchers are usually clean, the yards and general surroundings need more attention.

Diseased meat, with the exception of hydatid and fluky livers, is practically absent, tuberculosis entirely so.

Bakehouses and Handling of Bread.—Many bakehouses are still primitive in design, and without proper lighting or ventilation.

The construction affords breeding places for vermin, but bakers are learning to keep even these unsuitable places clean.

Proper wrapping of bread is rare, and loaves when wrapped at all are usually wrapped in newspaper.

Meat Supervision.—Supervision of meat supplies is not general: that of slaughter-yards and butchers' shops is of course done in the shires employing properly qualified Health Inspectors, but a knowledge of meat inspection apart from inspection of shops and slaughter-yards was met with in the case of only one Inspector.

It is possible that some diseased meat is sold to the public owing to imperfect supervision.

Registrations.—Councils not observing Part IV. of the Act have been interviewed with good results, but there are still one or two councils that fail to properly register registrable premises.

Recommendations.—That the shire councils of Maffra, Omeo, South Gippsland, and Alberton be required to appoint a properly qualified Health Inspector, either separately or in groups.

That the municipalities of Sale, Rosedale, Maffra, and Avon be urged to consider the question of a district water supply.

That Maffra Shire Council be urged to deal with the matter of the township drainage.

That the Agricultural Department be urged to make some effort to improve the system of dealing with the effluent from the Maffra Beet Sugar Works.

Other Health Activities.—Medical examination of school children.

The only school examined during the year was Orbost State School. Before last Christmas, 67 boys and 57 girls were examined, and post-nasal, dental, and other defects notified to the parents.

In the goitrous cases the thyroid gland was in all cases visible and easily palpable, so that in all cases the grade of goitre was at least eleventh of the Swiss Goitre Commission.

Since Christmas about the same number of children have been examined in Orbost School.

Baby Health Centres.—The centre in Bairnsdale continues to do good work, both in the ante-natal care of the health of the mothers, and the proper feeding and care of the children after birth.

The contemplated centre at Traralgon has not been established as expected.

Since my transfer to the North-Eastern District in the first half of the month of May, introductory visits have been paid to the shires of Seymour, Wangaratta, Benalla, Shepparton, Wodonga, Upper Murray, Towong, Rodney, Yea, Mansfield, and Alexandra.

In addition some weeks have been spent in the borough of Wangaratta, carrying out an anti-diphtheria campaign in co-operation with the Medical Officer of Health of the borough. In this campaign the Schick test was dispensed with, and the work was limited to the taking of swabs, the making of cultures, the examination of cultures, and identification of carriers, and the injection, where the parents were willing, of the toxin antitoxin protective mixture.

In all it was intended to examine and protect over 700 school children, but at the end of the year the work had not ended, and the figures and results were not all available.

(Signed) JOHN J. HARRIS.
District Health Officer.

Seymour, 27th August, 1927.

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